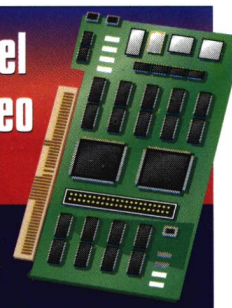


MacWEEK

Pro-level
PCI video
cards

See
Reviews,
Page 25



05.20.96

The Newsweekly for Macintosh Managers

VOLUME 10 NUMBER 20

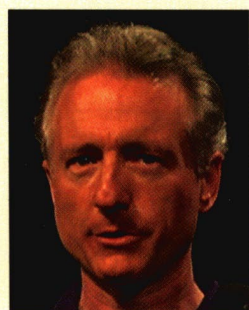
Tesler touts Internet as cornerstone technology

By James Staten

Larry Tesler, Apple vice president of Internet platforms, staked the company's claim on the Internet at the Apple Worldwide Developers Conference San Jose, Calif., last week when he said, "We are going to make the Internet as easy to use as the Macintosh."

With its Internet strategy, Apple seeks to make the company's computing devices the best for media-rich content authoring, simple client access and high-value servers. The plan relies heavily on the work of third-

party developers, OpenDoc and a new QuickTime Media Layer. Apple will also use its Internet sites and those of partners to provide online content that is the "benchmark for what users expect from the Internet," Tesler said during the strategy-rollout presentation at WWDC.



ROBERT HOUSER

"Apple is defining the media-rich user experience for the Internet."

—Larry Tesler

Addressing an audience of Macintosh vendors, Tesler said, "You know who's responsible for Apple's strong position in the Internet market — and that would be you." He named

See Internet, Page 74

Harmony update to tune Mac OS before Copland

By David Morgenstern

Apple last week sang a new OS tune — Please, Release Me — with Harmony, the code name for a system software release due before the introduction of Copland.

The software update is slated to ship by year-end. Previously, Apple said System 7.5.3 would be the last general update before Copland, which was given the official Mac OS 8 moniker at last week's Apple Worldwide Developers Conference in San Jose, Calif.

Jim Gable, Apple senior director for system software product mar-

keting, said Harmony will integrate several Internet and graphics technologies, including QuickTime 2.5, QuickDraw 3D, OpenDoc and Cyberdog. It may also come with third-party software.

In addition, the update will offer selected elements of Mac OS 8's interface, including parts of the Appearance Manager, such as tabbed folders. The determining factor for inclusion may be independence from Mac OS 8's new microkernel architecture. (Interface elements that were built be-

See Harmony, Page 74

A new Apple at WWDC

Amelio outlines grand strategy

By Stephen Howard

San Jose, Calif. — Apple CEO Gilbert Amelio last week presented his outline for how to resuscitate "one of America's all-time great companies" in a speech intended to rouse and energize the audience of software developers, press and analysts. The alternative, he said, was a "long, slow decline into irrelevancy."

In this keynote speech at the Apple Worldwide Developers Conference here, Amelio outlined new technology and marketing priorities for the company and sketched a reorganization to centralize these company efforts.

Amelio's big-picture diagnosis was that Apple had "lost the shared vision and focus" on innovative, easy-to-use technology. Predicting that the worldwide installed base of computers would double in the next five years, Amelio said his cure is to aim the

See Amelio, Page 76

Analysts wary but optimistic

By Joanna Pearlstein

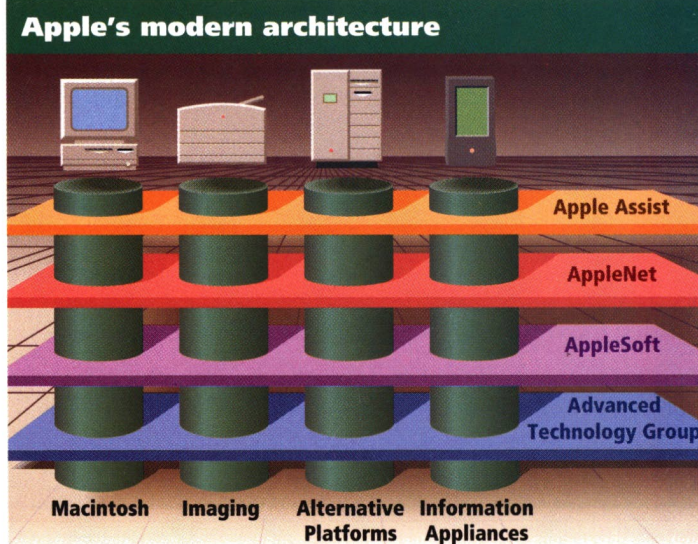
Industry analysts, Macintosh developers and users expressed cautious optimism about the recovery plan Apple CEO Gilbert Amelio laid out last week.

"Before, I gave Apple a 50-50

chance of survival," said Tim Bjarin, president of San Jose, Calif.-based Creative Strategies International Inc. "Now I believe it's more like 60 for, 40 against, because I believe they have the kind of people managing the company with the kind of implementation strategy that says, 'You do it, or else.'"

During the keynote speech at

See Reaction, Page 76



Pippin: Back in the USA

By James Staten

Bandai Digital Entertainment Corp. last week took the wraps off Pippin @World, its low-cost consumer Mac clone, at the Electronic Entertainment Expo in Los Angeles. The company said the system will reach U.S. users by September.

However, Apple CEO Gilbert Amelio stole a bit of Bandai's thunder earlier in the week at the Apple Worldwide Developers Conference in San Jose, Calif., when he said Apple would ship its own Internet-oriented version of the Pippin.

Bandai, which has been selling the device in Japan since March, said its U.S. model will carry a \$599 price tag, slightly

less than the Japanese version.

Apple gave few details about its Pippin product and said a ship date had not been determined. "Our goal is not to compete with

Bandai but to grow the market," said Mark Orr, Apple's Pippin technology marketing manager.

Pippin @World is a Mac derivative that uses a television set as its display and starts from a CD-ROM (see 03.18.96, Page 4). Based on a 66-MHz PowerPC 603, the unit will come with 6 Mbytes of RAM (expandable to 38 Mbytes), a quadruple-speed CD-ROM drive and a modem.

Two input devices will be provided. See Pippin, Page 75

Apple licenses Natural's Java Virtual Machine

By James Staten

Apple announced last week that it has licensed Natural Intelligence Inc.'s Java Virtual Machine and just-in-time compiler to use as the basis for its implementation of Java in the Mac OS.

Larry Tesler, Apple vice president of Internet platforms, said the company will build a new, hybrid version of Java by combining Natural Intelligence's Virtual Machine, or VM, with Mac code from Sun Microsystems Inc.

"We'll take code from both places and create the best — the See Natural, Page 75

DIVE

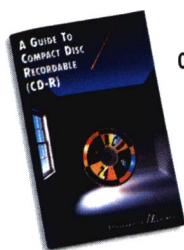
INTO...



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4 UP FRONT

Frontier crosses over to Version 4.0 • BBEEdit 4.0 taps into the Web • Linotype-Hell polishes Topaz scanner • Motorola unveils PowerPC 603e, 604e processors

6 NEWS

Pinnacle faces climb after poor quarter • Three new graphics displays • OpenDoc finds allies • APS ships new tape, MO and pint-size drives • StuffIt Expander 4 picks up speed

10 GA

ArchiCAD 5.0 building toward July release • Focus On: Who's on first in new OpenType deals? • Projector offerings erupt • Linker steps up sound support in Animation Stand

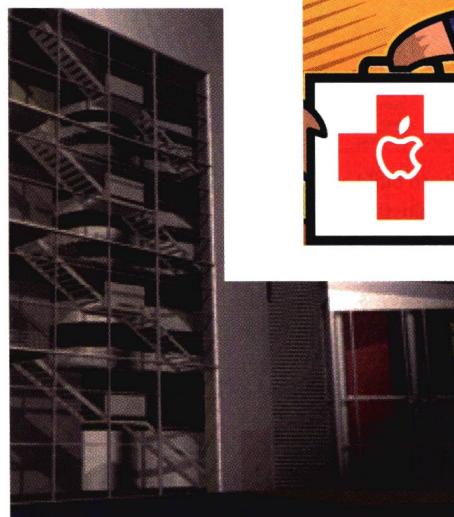
18 GATEWAYS

Quarterdeck releases WebStar API • Developers collect tools at WWDC • AOL offers a new client • Global Village spins off Internet division • Apple shows off Project X



Farallon's Netopia Internet Router Model 440 lets businesses make high-speed Internet connections. See Reviews, Page 25.

Apple's Tech Info Library is open for business online, but you'll need some help getting help. See MacInTouch, Page 39.



Stepping it up: Graphisoft drafts new features in ArchiCAD update. See GA, Page 10.

25 REVIEWS

Comparison: Media 100 qx and Targa 2000 Pro QuickTime-based digitizing PCI cards • Netopia Internet Router serves WAN connection • BeyondPress 2.0 brings XPress docs to Web • In Brief: Now Utilities 6.0.1

39 SOLUTIONS

Intranets are offering corporate users Web-like technology on private LANs.

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MACWEEK INSIDER STEPHEN HOWARD

Apple a cappella

While the cannon fire and kettledrum roar of reorgs and the Internet rock the Apple world, my ear is tuned to a delightful Harmony. Apple last week said it is considering an interim system software update, code-named Harmony, and I think the company and its customers need it.

The No. 1 priority in Mac OS development is reliability — the CEO said so. The improvements System 7.5.3 brought over previous releases prove there is indeed more work to be done in this realm, work that doesn't require protected memory and a new microkernel. Apple and users would benefit from another seven months spent fixing bugs, working with third-party developers to bring their errant code in line, testing the Mac OS on a variety of machines and creating a universal installer from the start.

I realize that in the wider world of marketing, selling something as "Now less buggy!" is a challenge, but if Gilbert Amelio is going to tell



everyone that stability is a hallmark of the Macintosh, then Harmony is the best and earliest chance to drive the point home.

Harmony — let's call it Mac OS 7.7 for now — is also a great delivery vehicle for technology that's been waiting for a ride into the mainstream. Java has its thumb out, as do OpenDoc and Cyberdog. Thanks in part to Natural Intelligence Inc., the former's ready to roll today (see story, Page 1).

Apple could also include the already-in-progress QuickTime 2.5 and QuickTime VR 2.0, maybe QuickDraw 3D 1.1 and the new Game Sprockets, without introducing instability. Despite Apple's stated upgrade policy of fielding periodic reference releases to get these technologies to Mac users, there has certainly been a lot of activity on the sidelines.

If Apple is going to sell Macs as Internet-ready, I suggest that the Apple Internet Connection Kit be bundled with Mac OS 7.7. To make that work better, why not add the

Open Transport-optimized Point-to-Point Protocol (PPP) stack that reportedly went beta last week? And if Apple Remote Access 3.0 — the one that layers AppleTalk on top of PPP — is ready in time, the company should at last do the right thing and bundle the client free with every Mac.

Throwing a sop to corporate users, the company could also put Novell Inc.'s NetWare Client for Macintosh 5.1 on the CD-ROM, which would finally let the Mac equal the built-in connectivity of Windows 95. (That might set back the whole reliability level a few notches, however.)

Everyone is excited about the possibility that some of the whizzy interface features from Copland — now Mac OS 8 — might be reprised in the System 7.5 code base where they were originally developed.

We probably can't have the full flexibility of the Appearance Manager, but I bet Apple can jimmy free the tinted 3-D windows, menus and buttons from the microkernel. I hope Apple can also fix the Open and Save dialog boxes, the twin devils that have confused new users for years. Exorcise them ASAP, Apple.

Speaking of twins, the V-Twin search engine that's so impressive in the demos of Copland's Views could be packaged as an independent utility, much like On Location from ON Technology Corp., or shoe-horned into the Find File application. Everyone could use a lift to the workaday task of searching files.

Frankly, while "continuous improvement" sounds good as a strategy for an OS, we've been there before, and it's not always pretty. Half a dozen OS technologies being constantly and independently updated, then distributed via the Inter-

net, is a problem to which reference releases were the solution.

Apple needs a better way to inform technical users of all updates in a timely fashion. The company also needs to constantly maintain an up-to-the-minute Installer package that equips a Mac with the latest software with just one click. That should strike the right chord. □

Stephen Howard is MacWEEK executive editor/news. He welcomes your suggestions for Mac OS 7.7 at stephen_howard@zd.com.

Internet's new Frontier

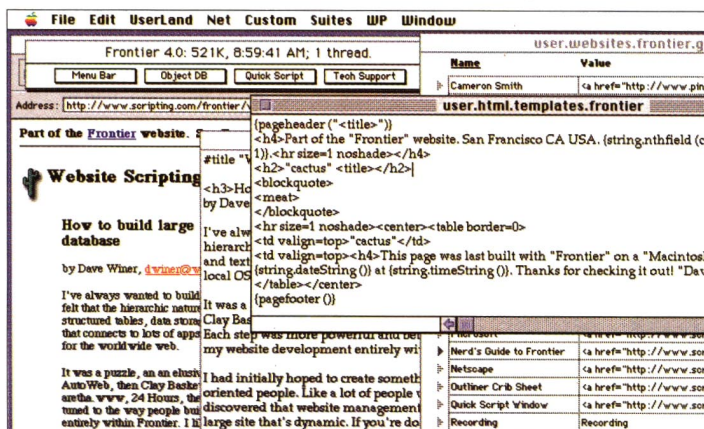
UserLand updates scripting tool to 4.0

By Clifford Colby

UserLand Software Inc. took its scripting application into new territory last week with the release of Version 4.0 of Frontier.

The free Apple-events scripting software has been tuned for the Internet and includes Web site-administration and automation features.

The company said Version 4.0 includes HTML text handling, allowing users to write HTML in Frontier and upload it to a Web site. The update lets users manage URLs (uniform resource locators) via glossaries. Users can place text in double quotes, and when the double-quoted text is run through the URL glossaries, Frontier will automatically link the text to an assigned URL.



The new version of Frontier offers the ability to build and manage Web sites and let users set up page templates and URL glossary databases.

Version 4.0 includes templates for Web pages and lets users include scripts in their HTML text. The software runs native on Power Macs, and UserLand said this version is up to 46 times faster than AppleScript.

A version of Frontier due this summer will be able to run Apple-

Script CGI (Common Gateway Interface) scripts multithreaded and unmodified, UserLand said. Frontier can run scripts from any Open Scripting Architecture language.

UserLand Software Inc. can be reached at <http://www.scripting.com/frontier>. □

Bare Bones intros BBEdit 4, SoftPolish

By James Staten

Bare Bones Software Inc. last week fleshed out BBEdit, its multipurpose text editor, and introduced SoftPolish, a software quality-assurance tool.

Most enhancements in BBEdit 4.0 are aimed at programmers, scriptors and Web page authors. Syntax color coding now distinguishes commands, comments and other elements in Sun Microsystems Inc.'s Java, C++, PERL and Kaleida Labs Inc.'s ScriptX code, among others.

The update also has closer links to Frontier 4.0, the new version of UserLand Software Inc.'s scripting language (see story, left).

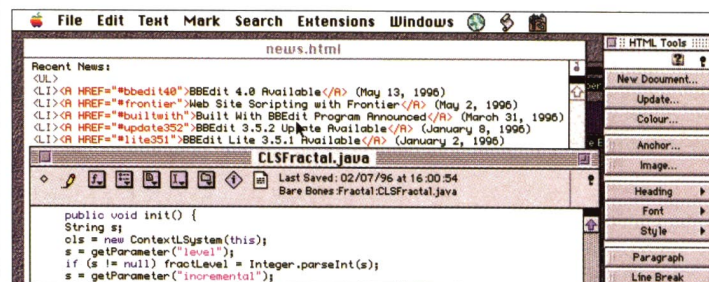
Other features include new

HTML editing tools; improved drag-and-drop support; and hooks into CodeWarrior from Metrowerks Inc. of Austin, Texas.

As with earlier versions, BBEdit 4.0 is \$119, and upgrades are \$39.

SoftPolish, priced at \$99, analyzes Mac user interface code for inconsistencies with Apple guidelines and identifies misspelled words or missing resources. It can also fix many of the problems it identifies, Bare Bones said. Five- and 10-user licenses cost \$295 and \$495, respectively.

Bare Bones Software Inc. of Bedford, Mass., can be reached at (617) 676-0650; fax (617) 676-0651; bbsw@barebones.com; <http://www.barebones.com>. □



BBEdit 4.0 color codes keywords, comments and string constraints in programming or HTML code. The upgrade adds Java support.

Motorola ships 200-MHz PPC 603e

By Joanna Pearlstein

Marking a milestone for PowerPC speeds, the Motorola RISC Microprocessor Division last week began selling 166-, 180- and 200-MHz versions of its 603e chip.

The Austin, Texas-based Motorola division and IBM Corp.'s East Fishkill, N.Y.-based Microelectronics Division also an-

nounced they had completed developing the PowerPC 604e chip, the next-generation PowerPC 604 that will ship later this year.

The 200-MHz 603e chip arrived sooner than expected; in April, a Motorola representative said a 200-MHz processor would not be released until later this year. These high-speed 603e chips

are the first PowerPCs to use 0.35-micron technology, a manufacturing process that reduces the power requirements and heat output of the microprocessors.

The 603e is used in Apple's PowerBooks and some education and consumer Macintosh models. Sources said the new 603e processors will be in PowerBook models due later this year (see 05.06.96, Page 1). Power Computing Corp. of Round Rock, Texas, and UMAX Computer Corp. of Fremont, Calif., said they will deploy those chips in systems during 1996.

The 604e processors will also be available in 166-, 180- and 200-MHz versions, Motorola said. The 604e is expected to replace the PowerPC 604 in desktop systems from Apple.

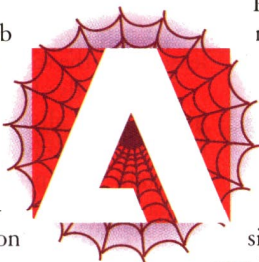
Nathan Brookwood, an analyst at Dataquest Inc. of San Jose, Calif., said the 200-MHz 603e is faster than the fastest Intel Pentium and slower than the 200-MHz Pentium Pro. Noting that Intel-standard PC vendors shipped 166-MHz Pentium Pro systems when that chip was announced, Brookwood said Motorola and Apple "have to close that gap. They have to get better." □

Adobe readies Web offensive

By Rebecca Gulick

Riding a wave of Web enthusiasm, Adobe Systems Inc. last week announced that it formed an Internet division. The company also announced the promotion of several executives.

Headed by newly appointed Vice President and General Manager John Kunze, the new division will focus on developing and marketing Internet products and technologies from Adobe of Mountain View, Calif. Kunze had been vice president of the graphics and publishing products group.



Products in Adobe's new division include Acrobat portable-document software; PageMill and Site-Mill, tools for creating and managing Web sites; and Persuasion as well as its progeny, Web Presenter, an authoring tool due this summer for publishing slide shows on the Web.

In other news, Adobe promoted David B. Pratt to executive vice president and chief operating officer and Fred Schwedner to senior vice president and general manager of the printing and systems division. □

Lino polishes Topaz

By Matthew Rothenberg

Linotype-Hell Co. this week will shore up its position at the high end of the flatbed scanner market with a new version of its Topaz model.

According to Linotype, the new scanner will start at \$49,000, the same as its predecessor. It offers an optical resolution of 5,080 dpi, up from 3,800 dpi with the original Topaz; images can be interpolated up to 11,000 dpi, up from 8,150 dpi, the company said. The new device is as much as 300 percent faster than the previous version, Linotype said.

The new Topaz can also take advantage of Linotype's new Copix hardware option, which lets users scan film separations. Copix costs \$19,000.

Like the previous version, the new Topaz is based on a trilinear CCD (charge-coupled device) array that can capture reflective

originals measuring up to 12 by 18 inches. The device can scan 9.8-by-18-inch transparencies, up from 8 by 18 inches with the previous model. It captures 16 bits each of RGB information per pixel in a single pass.

The new Topaz ships with the latest version, 4.1, of LinoColor, Linotype's color-management system, which formed the core of Apple's ColorSync 2.0 technology. LinoColor 4.1 supports background scanning and JPEG compression.

The announcement came on the heels of the debut of the competing ScanMate F8, a \$39,995 flatbed from ScanView Inc. of Foster City, Calif. (see 05.06.96, Page 1).

Linotype-Hell Co. of Hauppauge, N.Y., is at (516) 434-2000 or (800) 842-9721; fax (516) 434-2706; info@linotype-hell.com; <http://www.linotype-hell.com>. □

Nelson needs to get on the net, Freiman can't find a file, and Peterson's forgotten his password. Again.

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System 7.5's new Apple Guide interactive help system gives your coworkers

access to an IS expert right inside their Macintosh. You'll save valuable training and support time as Apple Guide walks your staff through even the most complicated functions step by step, highlighting exactly what to do next. In fact, this is an interactive help system so advanced you can customize it to your individual business needs.*

More compatible than ever

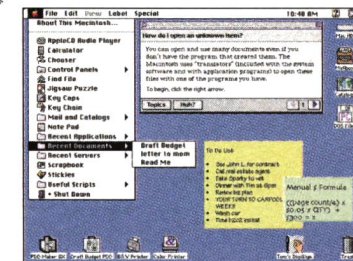
With System 7.5 integrating work done on other programs is a snap. Because no matter what application or personal computer was used to create a document, System 7.5 treats all files just like Macintosh files.

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* Using Apple Guide Authoring Software sold separately.

** MacLinkPlus Translators not included with volume licensing purchase.

This offer is good only in the U.S. Canadian customers please call 1-800-361-6075. Macintosh System 7.5 runs on Apple Macintosh, PowerBook and Power Macintosh computers and requires 4 MB of RAM, 8 MB for Power Macintosh systems (8 MB recommended for all systems). ©1995 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Macintosh, PowerBook and Power Macintosh are registered trademarks of Apple Computer, Inc. in the U.S. and other countries. The Mac OS logo is a trademark of Apple Computer Inc. All other trademarks are the property of their respective owners.

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Pinnacle delays Apex, cuts staff after Q1 loss

By David Morgenstern

Faced with a second straight quarterly loss, shrinking margins and product delays, Pinnacle Micro Inc. last week shook up its management team and cut staff.

The Irvine, Calif., company reported a first-quarter loss of \$3.9 million, down from a \$12,000 profit for the same quarter last year. Sales for the quarter slid 13.6 percent to \$17.4 million, and margins for its products fell to 17.9 percent, compared with 28 percent in 1995.

Pinnacle pointed to continuing manufacturing problems delaying its forthcoming Apex and Vertex magneto-optical drives (see 02.26.96, Page 4). It also said sales of its older Sierra and Tahoe MO lines had dropped off.

To fix its financial troubles, the company will trim marketing budgets in the third quarter and immediately lay off 15 percent of its 190-person work force. Pinnacle said it does not plan to cut staff at its new manufacturing plant in Colorado Springs, Colo.

Founder, President and CEO William Blum has been replaced by Larry Goelman, now acting president and CEO, and Daryl White, chairman. Goelman was formerly in charge of a health-care management company, and White was chief financial officer of Compaq Computer Corp. of Houston.

Pinnacle recently filled out its upper-level ranks with a pair of executives: Ken Campbell is now vice president of technology, and Jonathan Eddison is general counsel.

Pinnacle also laid out a revised timetable for volume shipments of its high-capacity MO products: The Apex drive is now slated for the fourth quarter, and Vertex in the third.

"Any time you're marketing something you can't ship, it's too much marketing," said analyst John Freeman with Strategic Marketing Decisions of Los Gatos, Calif. Freeman also said Pinnacle's bottom line was hit hard by declining margins in the CD-Recordable market.

Analysts said the new managers have their work cut out for them. In particular, they pointed to a shrinking window of opportunity for Apex to hold the solo spotlight for high-capacity MO technology. Pushed by Pinnacle's aggressive schedule, major storage industry players are expected to introduce in 1997 8x MO drives that match many features of Apex.

"If you're going to be the knight in shining armor [for the optical industry], you've got to execute perfectly," said Jim Porter, president of Disk/Trend Inc. of Mountain View, Calif. "Given their track record, it's understandable that they would stub their toes." □



More companies join OpenDoc fray

By Clifford Colby and Mark Hall

OpenDoc pulled more companies into its orbit this month when Apple signed a deal to integrate the component technology with the tools of a major object-oriented programming vendor and Component Integration Labs Inc.'s membership grew past 1,000.

Apple's agreement with Iona Technologies Ltd. of Dublin, Ireland, includes plans to mesh OpenDoc with Iona's Orbix implementation of CORBA (Common Object Request Broker Architecture), which is used in many distributed-database applications. Orbix lets developers create and control CORBA objects. CORBA, in turn, defines interactions among objects. The deal will let developers write OpenDoc components that make calls to Orbix.

As part of the announcement, Iona said it will bring the latest edition of Orbix, Version 2.0, to the Mac this fall. In related news, IBM Corp. of Armonk, N.Y., will also integrate Orbix with its System Object Model.

OpenDoc picked up more support as CI Labs revealed its membership topped the 1,000 mark. The explosive growth of the Sunnyvale, Calif., component-technology consortium was spurred on by a lower-cost \$350 subscriber-level membership introduced last fall. Before then, it had only 30 companies on board.

"We've gone beyond the early adopter stage," said Frank Mara, CI Labs vice president of marketing.

As expected, most new members are small software companies, but Mara said, "There are some household names like Symantec [Corp.] and Sybase [Inc.] on our list."

At the subscriber level, CI Labs has attracted user sites such as CBI Industries Inc. of Oak Park, Ill., and John Deere & Co. of Waterloo, Iowa.

Venture capitalists have also joined the throng. Ryan Floyd, an associate with Summit Partners of Palo Alto, Calif., said, "I'm scouting for emerging successful software companies." □

For the record

A May 6 story on IBM Corp.'s Mac OS license (Page 4) said VLSI Technology Inc.'s Gold Eagle support circuitry for the PowerPC Platform was based on another company's technology. The chip sets are original VLSI designs.

New graphics monitors are in the picture

By Joanna Pearlstein

Three vendors recently took the wraps off new displays aimed at the graphics and entry-level markets.

► **CTX International Inc.** debuted a pair of monitors based on Mitsubishi Electronics America Inc.'s Diamondtron tube. Scheduled to ship in June, the \$999 PR 700 will have a 17-inch CRT and a 16-inch viewing area. With an aperture grille pitch of 0.25mm, the monitor will display images at pixel resolutions up to 1,280 by 1,024 at 75 Hz.

The company's 21-inch model is the PR 900, a \$2,025 monitor with 19.6-inch viewing area.

The PR 900, slated for a July release, will have a 0.30mm aperture grille pitch and support a maximum resolution of 1,152 by 870 pixels at 75 Hz.

► **KDS USA**, formerly known as Orchestra MultiSystems Inc., rolled out two new displays. Both the 15-inch VSx-5 and 17-inch VSx-7 have dot pitches of 0.28mm and can display images at resolutions up to 1,024 by 768 pixels at 75 Hz.

The \$349 VSx-5 has a 13.9-inch viewing area, while the \$649 VSx-7 sports a 15.8-inch viewing area. Available now, both displays come with built-in speakers located at the bottom of the monitor bezel.

► **Panasonic Communications & Systems Co.** updated its 17-inch PanaSync/Pro display, the P17. Available now, the \$879 monitor has a 16-inch viewing area, a 0.25mm dot pitch and a maximum resolution of 1,280 by 1,024 pixels at 75 Hz.

CTX International Inc. of Walnut, Calif., can be reached at (909) 595-6146 or (800) 888-2012; fax (909) 595-6293.

KDS USA of Garden Grove, Calif., can be reached at (714) 379-5599; fax (714) 379-5595; <http://www.kdsusa.com>.

Panasonic Communications & Systems Co. of Secaucus, N.J., can be reached at (201) 348-7000 or (800) 742-8086. □



Geared toward graphics applications, CTX International's new 21-inch display, the PR 900, boasts a Diamondtron tube.

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APS introduces new drives

By David Morgenstern

APS Technologies Inc. this month released a passel of new storage products, including portable, magneto-optical and tape drives.

The company uncrated a speedier version of its HyperQIC Tape Backup System. Sporting the same \$499.95 price as the

previous model, the quarter-inch cartridge (QIC) drive is compatible with QIC-3095 formatted Travan cartridges and older QIC-Wide tape media.

With a Travan cartridge, the drive offers a capacity of 7 Gbytes with software-based compression and 4 Gbytes without com-

pression. The drive has a maximum data transfer rate of 25 Mbytes per minute.

Based on a 4,900-rpm IBM mechanism, APS' new \$699.95 APSI 1.2 has a capacity of 1.3 Gbytes. The 2.5-inch hard drive is aimed at users of the PowerBook 500 and Duo 200 series; it offers an average seek time of 11.3 milliseconds.

In addition, the company released a new high-capacity MO drive based on an Olympus mechanism. The \$1,799.95 drive

handles 2.6-Gbyte cartridges as well as older 5.25-inch ISO-standard media.

APS Technologies Inc. of Kansas City, Mo., can be reached at (816) 920-4109 or (800) 235-2753; fax (816) 483-3077; <http://www.apstech.com/>. □

StuffIt Expander moves forward

Aladdin Systems Inc. recently squeezed out an update to StuffIt Expander.

The company said Version 4.0 of the free utility is faster than previous releases, especially on Power Macs, and it no longer depends on file-name extensions, such as .hqx and .cpt, to determine file types. It also gains a Create Folder feature for processing multiple items in an archive.

When Version 4.0 of its sister utility, DropStuff with Expander Enhancer, is installed, StuffIt Expander 4.0 can translate Unix TAR archives, extract multiple files from uuencode and ZIP archives, and recombine a segmented archive. DropStuff with Expander Enhancer is \$30 shareware.

Aladdin Systems Inc. of Watsonville, Calif., can be reached at (408) 761-6200; fax (408) 761-6206; info@aladdinsys.com; <http://www.aladdinsys.com>. □

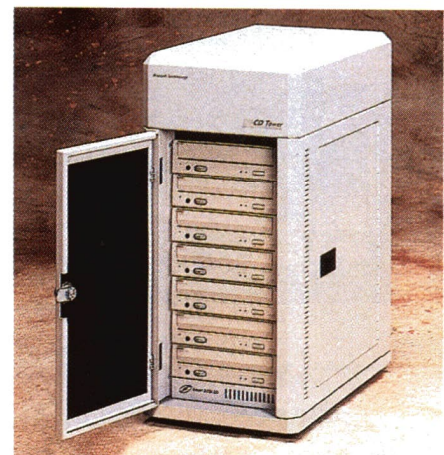
Procom unveils towers

Procom Technology Inc. this month shipped a trio of CD-ROM servers.

The company's CD Tower systems hold either seven, 14 or 21 CD-ROM mechanisms; models with quadruple-speed drives cost \$3,795, \$6,595 and \$12,995, respectively; models with 8x drives will ship in July and cost \$4,399, \$8,499 and \$13,749.

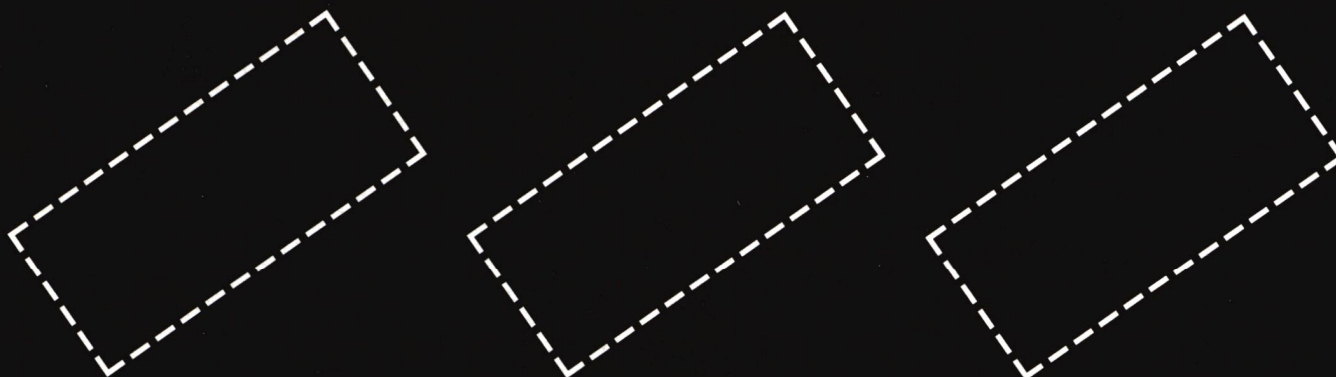
Procom said the systems use a hardware controller that uses a single ID for each set of seven drives in the enclosure. The servers support Hierarchical File System; ISO 9660; and Photo CD formats, including multisession discs, Procom said.

Procom Technology Inc. of Irvine, Calif., can be reached at (714) 852-1000 or (800) 800-8600; fax (714) 852-1221; info@procom.com; <http://www.procom.com>. □



Procom's new CD Tower-7Mac holds up to seven 4x CD-ROM mechanisms.

Have A New PowerPC PowerBook? Fill In The Blanks.



"Apple cut...on-board Ethernet found on the 500 series."

Stephen Howard - MacWEEK

"They (Apple) don't have built-in Ethernet."

Don Crabb - MacWEEK

"The PowerBook 190 ships with no video-out support..."

Henry Norr - MacWEEK

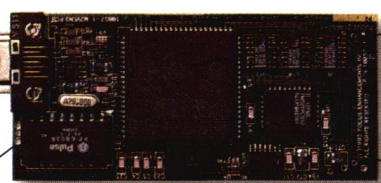


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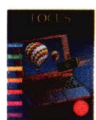
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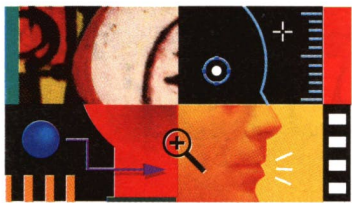
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MILLENNIUM NEARS
Millennium Computer Corp. and
Corel Corp. this week will reveal
Millennium's role in developing
CorelDraw for the Mac.

ArchiCAD to get rewrite

Graphisoft hones
tools, architecture

By Kelly Ryer

Graphisoft U.S. Inc. has announced plans to refurbish ArchiCAD, its CAD and architectural software.

Version 5.0 of the \$3,795 pack-

age, due in July, will include a slate of enhancements to the program's editing capabilities and underlying architecture.

ArchiCAD 5.0 will let users make changes to files within the software's section and elevation views. The current version requires users to edit their documents within ArchiCAD's modeling environment.



CAD on a hot tin roof: ArchiCAD 5.0 will add roof structures to architects' toolboxes. Textures and reflections can be added using the Artlantis Render utility.

Version 5.0 will automate the creation of complex roof structures, including domes, hipped roofs and vaults, Graphisoft said. Users will be able to draw curved walls and other elements using true arcs.

An intelligent cursor will detect perpendicular lines, intersections or tangents as it passes over them. Version 5.0 will also feature new dimensioning tools, Graphisoft said. A line-type editor will let users create lines bearing specific labels, such as a gas main with the word "gas" repeated at intervals.

ArchiCAD 5.0 will be able to handle AutoCAD DXF and DWG, 3DMF (3-D metafile format), StrataVision and StudioPro, Wavefront MTL and OBJ, and RenderMan formats.

Via the program's Camera tool, ArchiCAD 5.0 users will be able to generate multinode QuickTime VR panoramas and object movies; they will also be able to render the sequences di-

See ArchiCAD, Page 12

FOCUS ON

PUBLISHING

Interlocking font deals find center in Adobe

By Rebecca Gulick

In a dramatic move to mend fences, Adobe Systems Inc.'s John Warnock and Microsoft Corp.'s John Ludwick publicly shook hands this month and declared a joint effort to end the font wars. And last week at the Apple Worldwide Developers Conference in San Jose, Calif., Apple Internet chief Larry Tesler shook hands with Warnock, and said, "Thanks for bringing Microsoft in line with us."

Warnock seemed confused by the statement, and so were analysts attempting to sort out

the overlapping initiatives.

Until now, the font market has been split between TrueType, used by Apple and Microsoft, and Adobe's Type 1 standard. Now the companies plan to cross-license their disparate technologies and establish a new format called OpenType that will encompass both formats and strengthen their grip on the Web.

According to Adobe, the OpenType announcement consolidates several earlier proposals. In February, Adobe and Netscape Communications

See Focus On, Page 12



New projectors enter the picture

Proxima offers Acrobat option

By Matthew Rothenberg

A welter of hardware announcements is brightening the outlook for Mac presenters looking for new projection options.

► **Proxima Corp.** of San Diego last week rolled out the Desktop Projector 4100, a system that the company said draws on new projection technology and has built-in Adobe Acrobat support.

The DP4100 uses a 640-by-480-pixel Digital Light Processing engine from Texas Instruments Inc. of Austin, Texas, to output 350 lumens, allowing the device to project 24-bit-color images measuring up to 12 feet diagonally, Proxima said. In addition, the device can project 1,200 lumens in monochrome mode, making it easy to view projec-

tions even in well-lit rooms.

The 26-pound projector is available in a \$9,495 fixed-focus version; Proxima offers a model with a zoom lens for \$9,995.

Users of the DP4100 projectors can also purchase MediaExpress, a new option that displays Acrobat documents without a connected CPU. A floppy-only version is \$1,495, while a MediaExpress unit with a 540-Mbyte hard drive is \$1,995.

The DP4100's two pairs of inputs for computer signals and video support Mac, VGA, NTSC, PAL (European) and SECAM (French) signals. Proxima said it will offer Super VGA and XGA updates in two months and one year, respectively.

The device features four stereo audio inputs and one microphone jack. It includes stereo speakers as well as a pair of 3-watt amplifiers. The DP4100 also comes with a programmable



Proxima's DP4100 uses new TI projection technology and can be outfitted with an Adobe Acrobat player.

nine-button remote.

In addition, Proxima announced the Desktop Projector 2910, a brighter version of its DP2900 LCD projector.

The \$7,995 device, which projects 24-bit color at 640 by 480 pixels, outputs 650 lumens, Proxima said.

The 22-pound device handles NTSC, S-VHS, PAL and SECAM video and computer input. The DP2910 includes stereo speakers and a remote.

See Projectors, Page 12

Audio jazzes up Linker app

By Kelly Ryer

With no sound, 2-D animation can seem a little, well, flat. So Linker Systems Inc. has jazzed up 2-D by adding audio-editing capabilities to The Animation Stand 3.4, the new version of its 2-D animation and special-effects system.

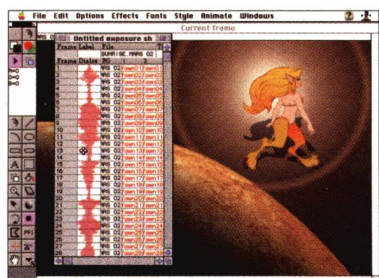
Version 3.4 lets animators attach an unlimited number of sound files to an animation exposure sheet so they can synchronize sound with animation.

Left- and right-channel audio data is displayed graphically, and sound can be "scrubbed" back and forth during playback. The Animation Stand can work with sound files in both snd and System 7 formats. The company said it plans to incorporate more audio file formats in the near future.

Version 3.4 also includes tools aimed at game developers. The new version features alpha-channel and blue-screen compositing tools and controls for optimizing color, Linker said.

A Power Mac-native version of The Animation Stand sells for \$5,000; the 680x0 version is \$3,000. Upgrades from Version 3.3 are \$250; users who purchased the application after June 1, 1995, will receive a free upgrade.

Linker Systems Inc. of Irvine, Calif., is at (714) 552-1904; fax (714) 552-6985; linker@linker.com.

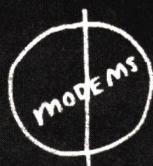


Version 3.4 of The Animation Stand features audio-editing capabilities.



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FOCUS ON

From Page 10

Corp., both of Mountain View, Calif., and Apple said they were working together on an unnamed HTML 3.0 specification for embedding TrueType and Type 1 fonts in Web pages (see 03.04.96, Page 4, and 04.15.96, Page 12).

Warnock said last week that Microsoft had originally expected to create a separate OpenType format with his company. Nevertheless, the initiatives are "all going to be wrapped into one," he said.

However, Alec Saunders, product manager in the desktop and business systems group of Redmond, Wash.-based Microsoft, said the OpenType announcement involves only Microsoft and Adobe.

Evidently, executives from all four companies have yet to agree on the scope and direction of OpenType or their agreements. Furthermore, analysts aren't convinced the font wars are over.

Craig Cline, vice president of programs at Seybold Seminars in Foster City, Calif., said this is "more like an armistice than an end." There needs to be a demonstration of trust before there can be actual peace, he said.

Besides Tesler's brief comment to Warnock at WWDC, Apple has not made any public statements regarding Adobe's collaboration with Microsoft. Cline said the unanswered question is, "What's going to happen with Apple?"

Meanwhile, Adobe and Microsoft spelled out more details about OpenType.

The two companies presented OpenType as a standard for embedding fonts in HTML documents at the Fifth International World Wide Web conference this month in Paris. Bill McCoy, Adobe director of core technology engineering, said the reception was positive.

OpenType is a common container format for TrueType and Type 1 fonts, McCoy said. It will include compression and subsetting technologies for efficient delivery of high-quality font representations over the Web, Adobe and Microsoft said.

Microsoft's Saunders said OpenType will allow fonts to be "embedded and inseparable from the Web document," which will alleviate concerns about font licensing.

Since the February announcement, most of Adobe's work has been on Type 1 technology. "Microsoft is the TrueType half of this cross-platform solution," McCoy said.

Cline said: "This new format can be viewed as a nudging out of Type 1 by TrueType. It is a graceful way of saying TrueType won."

The OpenType specification will be made available to other OS and Internet vendors. Adobe said it plans to incorporate it into Acrobat and its Bravo imaging engine, which it has licensed to Sun Microsystems Inc. for inclusion in Java. □

QuickTime streams on Web

By Kelly Ryer and James Staten

Apple used its Worldwide Developers Conference in San Jose, Calif., last week to demonstrate a QuickTime plug-in for Netscape Navigator that displays movies as they are being downloaded.

The plug-in, first unveiled at April's Spring Internet World 96 in San Jose, will be delivered for the Mac, Windows 3.1 and Windows 95 platforms as part of the next preview release of Netscape Navigator 3.0, due later this month.

Mountain View, Calif.-based Netscape Communications Corp. said it has licensed QuickTime and will integrate it with LiveMedia, the company's open multimedia architecture (see 04.29.96, Page 1).

The new plug-in will let users begin watching a QuickTime movie before it has been fully downloaded. Apple said the tool will begin playback once it has received enough data so the movie can run uninterrupted until the download is finished. On slow connections, Apple said, playback

may not occur until as much as 90 percent of the file has been received.

QuickTime movies will need to be run through a filter that moves timing and file-size information to the front of the file before this fast-start playback option will work. The filter is currently included in MovieStar Maker from Intelligence at Large Inc. of Philadelphia and Movie Cleaner from Terran Interactive Inc. of San Jose. Apple said it is also working on a utility with the filter.

The QuickTime plug-in will require Navigator 3.0. A version for use with Navigator 2.0 and Microsoft Corp.'s Internet Explorer will be released in June on Apple's QuickTime Web site at <http://quicktime.apple.com>.

Apple said the new plug-ins will support most QuickTime VR files; a system extension for QuickTime VR that will let the new plug-in interact with these files consistently will be released in June (see 05.13.96, Page 1). □

ArchiCAD

From Page 10

rectly within the application. The current version of ArchiCAD requires a separate utility to create sequences for Apple's virtual reality technology.

A new Find & Select filter will offer users complex selection controls based on variables such as fill pattern, layer, internal ID, part names or the area of the drawing.

ArchiCAD's 3-D views will be streamlined in Version 5.0. When models are modified, the new version will re-create only the revised portion of the 3-D window, speeding redraws, Graphisoft said.

Thanks to new database links, users will be able to assign variables and properties to objects in their models. For example, they will be able to outfit a model with a specific brand of door listed in a database. When changes are made to the database, the

model will update, Graphisoft said.

The company said Version 5.0 will also accommodate third-party software enhancements. According to Graphisoft, PracSys KFT of Budapest, Hungary, is already working on a terrain modeler called ArchiSITE.

In other ArchiCAD news, Graphisoft announced Version 2.1 of Artlantis Render for ArchiCAD. Developed as Atlantis Render by Abvent SA of Paris, the renderer provides texture mapping, procedural shading and ray tracing for ArchiCAD files. Version 2.1 adds cross-platform capability and lets users choose viewpoints. The renderer is \$495 bundled with ArchiCAD or \$595 separately.

Graphisoft U.S. Inc. of San Francisco can be reached at (415) 703-9777 or (800) 344-3468; graphisoft@aol.com; <http://www.graphisoft.com>. □

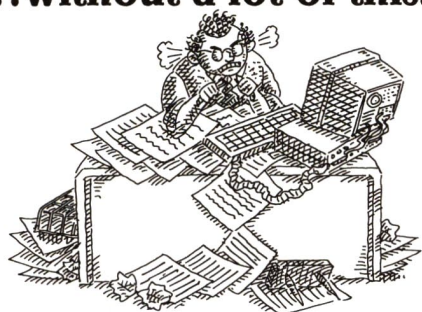
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Projectors

From Page 10

► **Epson America Inc.** of Torrance, Calif., this month introduced the latest version of its portable LCD multimedia projector. The ELP-3300, priced at \$9,599, weighs less than 17 pounds and measures 16.26 by 11.22 by 5.87 inches.

The unit includes three 640-by-480-pixel LCDs; it outputs 350 lumens to project 24-bit-color images measuring up to 25 feet diagonally. Besides computer signals and stereo audio, the ELP-3300 handles composite and S-video and displays NTSC, PAL and SECAM video.

A manual zoom lens and built-in stereo signals are provided, and it ships with a backlit remote.

► **Boxlight Corp.** of Poulsbo, Wash., in April rolled out the ProColor 2001, a \$4,999 LCD projector. The new model uses three active-matrix LCD panels that output 250 lumens to project 24-bit-color,

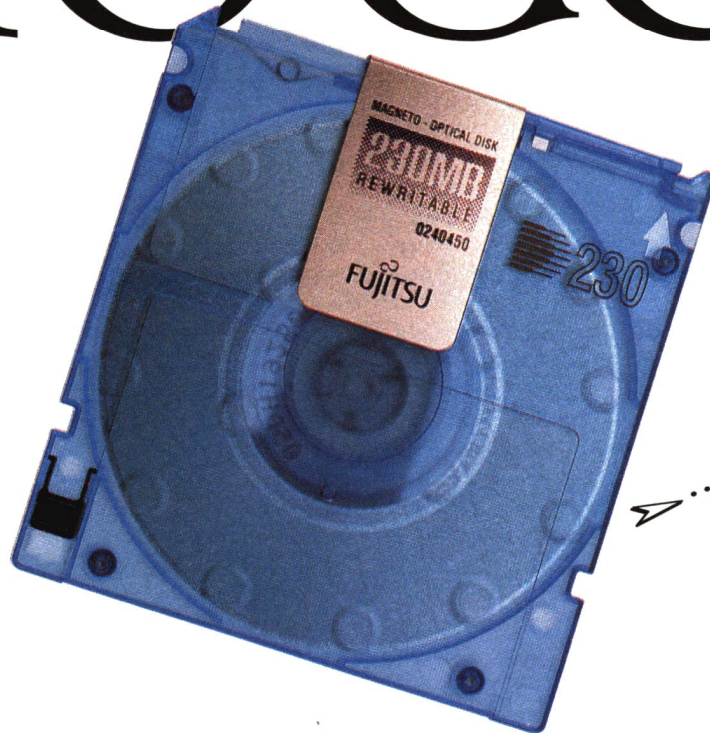
800-by-600-pixel images measuring up to 21 feet diagonally. A \$950 zoom lens lets users project images measuring up to 30 feet diagonally.

The ProColor 2001 supports only computer signals, but a \$500 expansion card adds support for NTSC video. It comes with stereo speakers and a 15-watt amplifier as well as a microphone input and remote.

► **In Focus Systems Inc.** of Wilsonville, Ore., in April rolled out a new version of its LitePro 580 projector. According to the company, the 24-bit-color device now supports 800-by-600-pixel resolutions, up from 640-by-480-pixel resolutions, and outputs 350 lumens, up from 200 lumens. The LitePro 580 is still priced at \$9,999.

► **Polaroid Corp.** of Cambridge, Mass., in April introduced a revamped Polaview 105 that outputs 350 lumens, up from 300 lumens. The \$9,495 device projects 24-bit-color images measuring up to 30 feet diagonally. □

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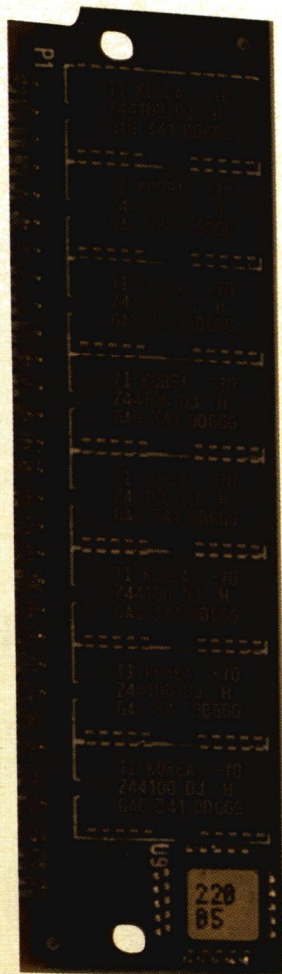


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BOTTOM LINE
DISTRIBUTION

Netscape puts VRML 2 on Mac

By James Staten

Netscape Communications Corp. this month released the first client tool for browsing VRML 2.0 worlds on a Power Mac, but users will need significant resources to try it out.

Live3D is a free plug-in for Netscape Navigator 3.0, which is code-named Atlas and currently in public beta testing. The plug-in is based on WebFX, a Virtual Reality Modeling Language, or VRML, browser developed by Paper Software Inc. of Woodstock, N.Y. Netscape acquired Paper earlier this year.

Camera-rig line shoots for QTVR's 3-D object movies

By Kelly Ryer

Adding a new dimension to the creation of QuickTime VR presentations, Kaidan last week announced a line of camera rigs designed to simplify creating 3-D object movies when using the Apple technology.

The Magellan rigs, which Kaidan introduced last week at Apple's Worldwide Developers Conference in San Jose, Calif., can attach to a variety of cameras to capture the 360-degree views of objects required to generate QuickTime VR files.

Each device includes an adjustable camera arm and an adjustable-height click-stop pedestal that supports and rotates the object being photographed, Kaidan said.

The \$1,999 Magellan 1000, available now, connects to any camera or camcorder weighing less than 5 pounds and equipped with a 0.25- or 0.375-inch tripod-mounting socket. It can photograph 150-pound objects measuring up to 3 feet in diameter. The company said it plans to ship a motorized version, the M-1500, in June, although pricing has not been set. M-1000 users will be able to upgrade to the M-1500.

The \$399.95 Magellan QC, also shipping now, is designed to fit the Color Quick-Cam digital camera from San Mateo, Calif.-based Connectix Corp. The M-QC can handle 10-pound objects measuring up to 1 foot across, Kaidan said.

The company also announced plans for two additional cameras, which it expects to ship in the third quarter. Designed for large objects, the M-2000 will be available in manual and motorized versions for about \$5,000 and \$7,000, respectively. The floor-standing devices will be able to handle 350-pound objects measuring up to 8 feet in diameter.

Each of the Magellan rigs comes bundled with a variety of Apple's QuickTime VR development tools.

Kaidan of Feasterville, Pa., can be reached at (215) 364-1778; fax (215) 322-4186; info@kaidan.com; http://www.kaidan.com. □

The plug-in lets users view 3-D worlds and objects that comply with Version 2.0 of the VRML specification. Called Moving Worlds, VRML 2.0 adds animation and sound to static 3-D environments.

However, this functionality comes at a price. Users will need to dedicate at least 12 Mbytes of RAM to Navigator to use Live3D; Netscape recommends 14 to 18 Mbytes. Netscape said it is working to reduce the RAM requirements of both Atlas and Live3D.

Netscape said Live3D provides better 3-D rendering performance than other VRML browsers through its support for adaptive rendering; background processing; and GZIP compression, a derivative of LZW compression technology.

The plug-in supports walking and flying through 3-D space, multiple camera view-



Live3D will let Navigator 3.0 users view 3-D worlds and objects that comply with VRML 2.0.

points, collision detection, gravity effects, and streaming audio and video content.

Netscape Communications Corp. of Mountain View, Calif., can be reached at (415) 528-2555 or (800) 638-7483; fax (415) 528-4124; http://home.netscape.com. □

Plug-in speeds voyage around Photoshop files

By Rebecca Gulick

Adobe Photoshop users looking to chart a faster course around their images can now turn to PhotoNavigator, a free Mac-based plug-in from Extensis Corp.

PhotoNavigator, available now from Extensis' Web site, eliminates the need to scroll around a Photoshop image and wait for it to redraw, Extensis said. Instead, the plug-in displays a floating palette containing a thumbnail view of the image. By clicking on an area of the thumbnail view, users can instantly zoom in on a specific area of the image. They can also drag a rectangular frame within the thumbnail view to move to another region of the full-resolution image.

Extensis said PhotoNavigator takes about 40 seconds to create a thumbnail view of a 40-Mbyte image.

PhotoNavigator "virtually eliminates scrolling," said Dan Feather, vice president

of Ellisor Design of Nashville, Tenn. "I can remain as close in as I want and waste no time in waiting for the trip from one place to another."

Extensis said PhotoNavigator is a precursor to a set of Photoshop productivity tools due in the fall.

According to Stefan Lisowski, a San Francisco graphic designer, PhotoNavigator is "a bit clunky, but I miss it every time I turn it off. What it does feels like a feature that should have been in Photoshop already." However, Lisowski said he wished the plug-in also worked with indexed-color or bit-mapped images.

PhotoNavigator requires Photoshop 3.0.4 or higher.

Extensis Corp. of Portland, Ore., can be reached at (503) 274-2020 or (800) 796-9798; fax (503) 274-0530; info@extensis.com; http://www.extensis.com/. □



PhotoNavigator, Extensis' free Adobe Photoshop plug-in, creates a thumbnail view of an image that editors can use to view a specific area without scrolling.

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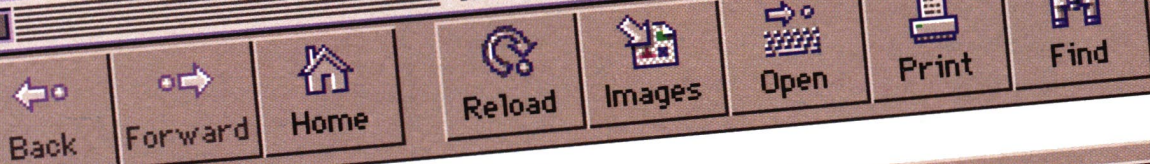
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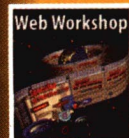
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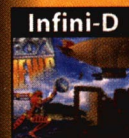


Specular 3D Web Workshop

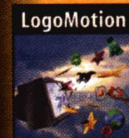
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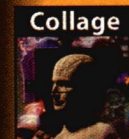
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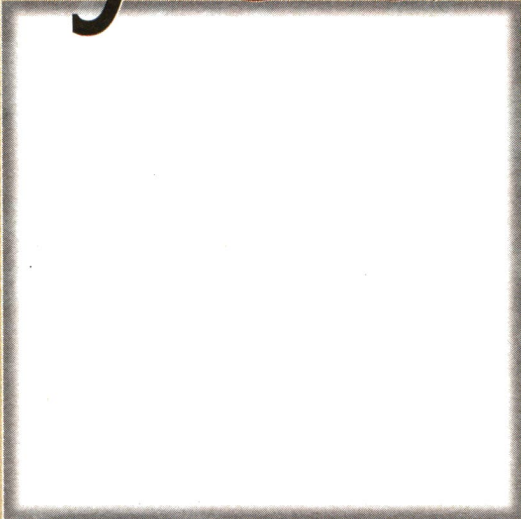
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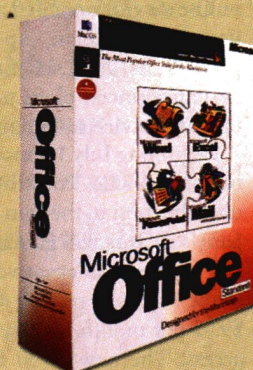
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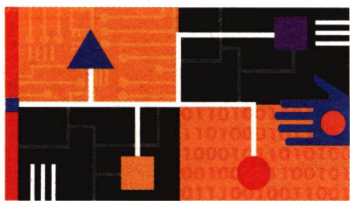
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WebStar API released

Personal server to ship in June

By James Staten

Quarterdeck Corp. last week released a software development kit and API for building WebStar plug-ins and demonstrated an entry-level version of its Internet server.

In addition, several third parties used the Apple Worldwide Developers Conference in San Jose, Calif., as a forum to unveil their plug-in development plans.

The WebStar SDK and W*API let developers create plug-ins to perform functions that currently require a CGI (Common Gateway Interface). The add-ons share WebStar's memory space, improving performance and introducing functions not currently available via CGIs, Quarterdeck said (see 04.15.96, Page 1).

According to the company, W*API lets developers port plug-

WebStar plug-ins in the works

COMPANY NAME	PLUG-IN
Acme Technologies	Finger daemon
Adobe Systems Inc.	Acrobat byte server
Apple	AppleSearch link, V-twin search tool
EveryWare Development Corp.	Database link
Maxum Development Corp.	Forms and security
Net.Dreams	E-mail response daemon
Pacific Coast Software Inc.	Remote HTML editing and administration, commerce
Purity Software Inc.	Database link
WebGenesis Inc.	Chat, registration, surveys
Webink Ltd.	Multipurpose plug-in

ins to Unix or Microsoft Windows NT servers that support Netscape Communications Corp.'s Netscape Server API or Microsoft Corp.'s Internet Server API.

Twelve companies, including Apple, Adobe Systems Inc., EveryWare Development Corp., Maxum Development Corp. and Natural Intelligence Inc., an-

nounced plans to deliver plug-ins for WebStar. Natural Intelligence of Cambridge, Mass., said it is working on a Java Virtual Machine plug-in that will let Java applets execute on the server (see 05.13.96, Page 20). Natural Intelligence and Quarterdeck said that later this summer they plan

See WebStar, Page 20

Development tools aplenty at WWDC

By Clifford Colby and James Staten

San Jose, Calif. — Apple CEO Gilbert Amelio said last week that the company will need the help of its third parties for its platforms to become best-of-class in Internet functions and cross-platform interoperability. At the Apple Worldwide Developers Conference, the company and a host of vendors showcased tools designed to help programmers achieve those goals.

► Apple shipped Release 20 of its Essentials-Tools-Objects suite of development tools. The \$195 update includes pre-release versions of MrC and MrCpp plug-in compilers for Metrowerks Inc.'s CodeWarrior, a Direct-to-SOM (System Object Model) version of the MrCpp C++ compiler, and a

pre-release Power Mac source-level debugger.

On the OpenDoc front, Apple rolled out OpenDoc 1.0.4, Release 1 of OpenDoc Development Framework and Cyberdog 1.0.

In conjunction with Macro-media Inc. of San Francisco, Apple announced plans to create a Shockwave for Director OpenDoc part that will work with Cyberdog.

► Aladdin Systems Inc. of Watsonville, Calif., shipped StuffIt InstallerMaker 3.0, which provides better compression, scripting and recording features as well as an uninstall function.

► Altura Software Inc. of Pacific Grove, Calif., showed off the new version of Mac2Win, which lets developers port Mac

See Tools, Page 20

AOL alters pricing plan, offers new Web browser

By Marty Cortinas

America Online Inc. enjoyed bright financial news this month and is sharing some sunshine with its customers.

Along with record revenues for the quarter, the Vienna, Va.-based online service unveiled a new pricing plan, upgraded its Mac client and announced plans to take its service to Japan.

Beginning July 1, those members who contributed the most to the company's success will gain a less expensive alternative to the standard pricing scheme of \$9.95 per month for five hours of access. The new 20/20 Plan provides 20 hours of access a month for \$19.95. Each additional hour will remain at \$2.95 for both plans. Mac users got an extra bonus in



AOL 2.7 provides an updated Web browser that supports HTML tables, allowing users to see more creative layouts.

a new version of the AOL client. Version 2.7 features a faster and more stable Web browser. Based on InterCon Systems Corp.'s TCP/Connect II, AOL's browser now supports HTML tables and

See AOL, Page 20

Global spins off Internet group

By Joanna Pearlstein

Global Village Communication Inc. in April spun off its Internet Services division and announced a 53 percent revenue growth in its fourth quarter of fiscal year 1995.

Global's Internet Services division is now GlobalCenter Inc. The new company was formed through a partnership with Internet service provider UUNET Technologies Inc. of Fairfax, Va., which holds a 20 percent equity stake in the venture.

Global Village of Sunnyvale, Calif., first used the GlobalCenter name with its OneWorld Internet product, an Internet access hardware, software and service package that the company shipped in 1995.

The spinoff, also based in Sunnyvale, is headed by Rex Cardinale, former Global Village vice presi-

See Global, Page 20

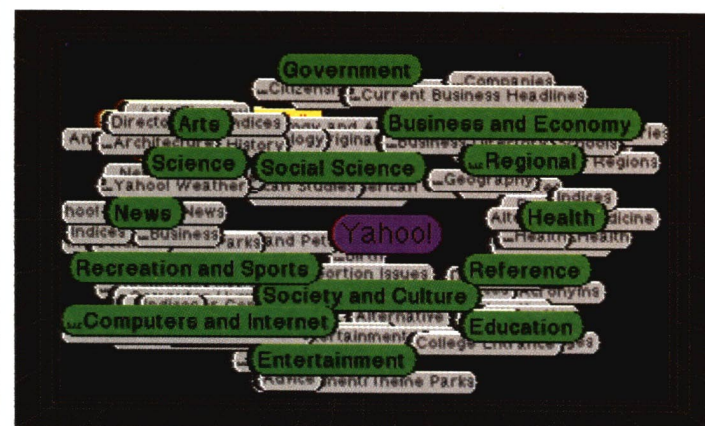
Project X turns directories 3-D

By James Staten

Apple demonstrated Project X, a 3-D Internet navigating tool, at last week's Apple Worldwide Developers Conference in San Jose, Calif.

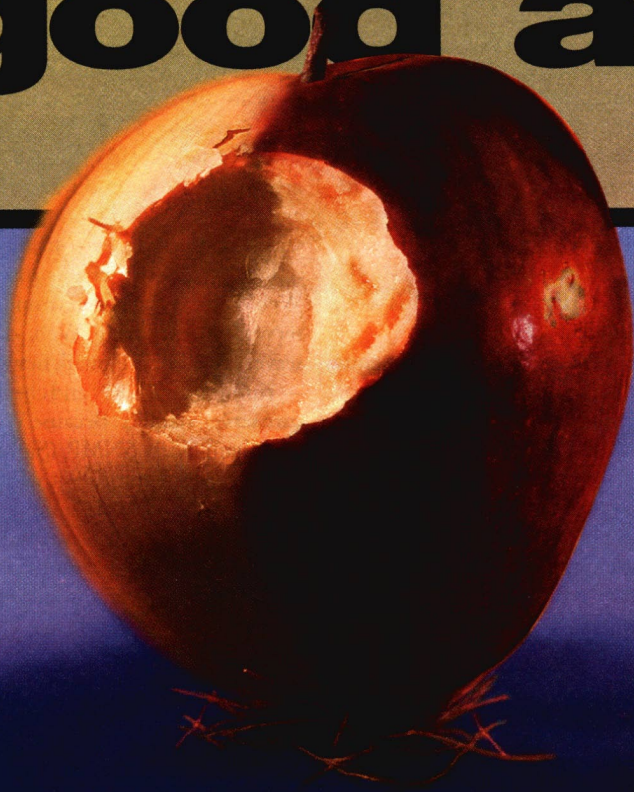
Apple's Advanced Technology Group is developing the Power Mac-only Project X. The tool lets users view Internet directories, such as Yahoo!, through a Finder-like list view or a 3-D spatial diagram. Apple showed how users can fly through the 3-D diagram to move deeper in the hierarchy.

Project X also provides search functions that can be used to create new directories or catalog a Web site. Project X uses a new file format called Meta Content format, or MCF, to display Web sites in three dimensions; users can drag URLs (uniform resource locators) from any application and drop them into Project X to add them to the application's window. The free Project X technology prototype can be downloaded from <http://atg.apple.com/go/ProjectX>.



Project X from Apple's Advanced Technology Group gives new meaning to the term "surfing the Web," adding dimension to a traditionally 2-D task.

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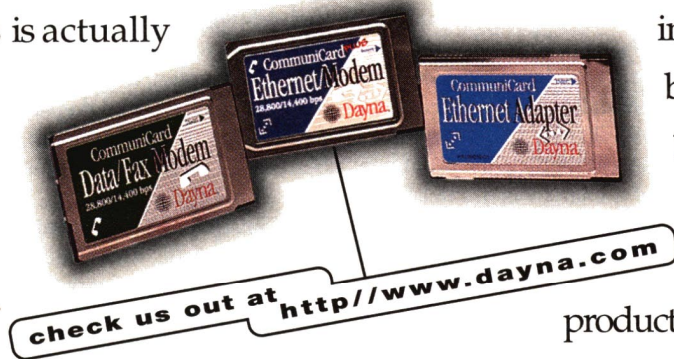
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WebStar

From Page 18

to ship products based on the combination of WebStar and Roaster, Natural Intelligence's Java development environment. Sources said the first of these products is likely to be a tool that will let users build plug-ins using Java.

Quarterdeck's SDK comes with a beta release of WebStar 1.3, the version that supports plug-ins; the final release will ship at the end of the month as a free upgrade.

In June, Quarterdeck will debut WebStar Lite, a \$49 shareware version of its server that will support plug-ins. According to the company, it will be aimed at entry-level users and have limited administration features.

David Thompson, WebStar product manager at Quarterdeck, said Lite will use Macintosh Drag and Drop as its main interface. "Users will drag files onto the WebStar Lite icon and a dialog will pop up asking them if they want to serve this document," he said. Users will add plug-ins to the server through Drag and Drop as well, Thompson added.

Lite will be limited to two simultaneous users and will not support CGIs or pre- or post-processing.

Quarterdeck said Lite will replace MacHTTP in its product line. The company said it has not decided whether it will continue to support MacHTTP after June.

Quarterdeck Corp. of Marina Del Rey, Calif., can be reached at (510) 649-4949 or (800) 525-2580; fax (510) 648-0393; info@quarterdeck.com; http://www.quarterdeck.com. □

AOL

From Page 18

can handle scaled images and images with text wrap. Version 2.7 also provides a tool that automatically detects and repairs damage to a user's online database.

AOL reported revenues of \$312 million for the quarter ended March 31, a 186 percent increase over the \$109 million reported for the same quarter last year. Profits were \$15.1 million, up from a loss of \$3.3 million

Tools

From Page 18

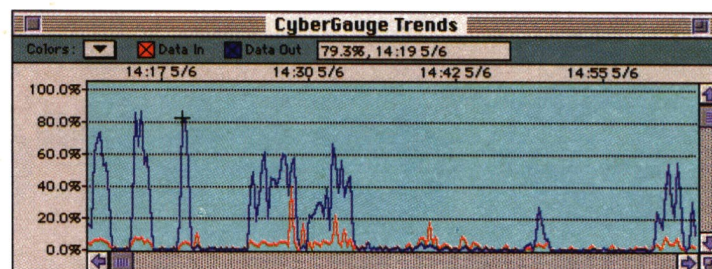
applications to Windows 3.1, 95 and NT platforms.

► **EveryWare Development Corp.** of Mississauga, Ontario, showed a new version of its \$495 Tango CGI (Common Gateway Interface) that lets users publish the contents of a Claris Corp. FileMaker Pro database on the Internet.

► **Fortner Research LLC** of Sterling, Va., had on hand KAP Optimizer, its \$295 Fortran source-code tool.

► **guideWorks LLC**, based here, shipped guideWorks Translator 2.0, a \$199.95 translation tool that converts Apple Guides into Windows Help or HTML documents.

► **The Latitude Group Inc.** of Mountain View, Calif., showed Latitude Cross-Platform Development Kit 3.0, which lets users port MacApp-developed applications to Unix.



CyberGauge helps network administrators determine if their Internet connection provides the bandwidth their company needs.

Tools to track network I/O

By Joanna Pearlstein

Two tools due this month from Caravelle Inc. and Neon Software Inc. will allow system administrators to monitor network hardware over TCP/IP.

Caravelle's WebWatcher for Macintosh, an upgrade to the product previously known as NetWorks 4.0, will monitor TCP/IP devices to ensure they are working properly.

Due by the end of this month for \$295, WebWatcher will determine the type of servers — including Web, domain name server (DNS), FTP, mail, news and Gopher — running on a LAN and check them to ensure server viability. Because WebWatcher is compliant with SNMP (Simple Network Management Protocol), it will also manage SNMP-compliant routers and gateways.

When a device or server fails to respond, WebWatcher will automatically notify administrators via e-mail, pager or an on-screen alert.

Neon's CyberGauge tracks throughput of SNMP-compliant Internet hardware.

Now available for \$139, the program is designed to help network administrators assess the performance of their hubs, routers and switches. The product gauges throughput and reports statistics on the devices' performance. Managers can view, print or export bandwidth data for trend analysis.

Caravelle Inc. of Nepean, Ontario, is at (613) 225-1172; fax (613) 225-4777; sales@caravelle.com; http://www.caravelle.com.

Neon Software Inc. of Lafayette, Calif., can be reached at (510) 283-9771 or (800) 334-6366; fax (510) 283-6507; info@neon.com; http://www.neon.com. □

Global

From Page 18

dent. Global Village CEO Neil Selvin and UUNET Vice President Alan Taffel are on the board of directors for the new venture.

In other news, Global Village's revenues rose 53 percent in the fourth quarter, ended March 31. Revenues rose to \$42 million from \$27.5 million. Net income increased to \$3.9 million, or 22 cent per share, from \$1.6 million, or 9 cents per share, for the year-ago quarter.

Selvin said in a statement that the higher earnings were primarily because of increased sales of Windows and networking products, as well as revenues from the company's new subsidiary, Global Village Communication U.K. Ltd., a Skipton, England-based company formerly called KNX Ltd., which Global acquired last year. □

► **Main Event Software Inc.** announced Scripter 2.0, which gains writing, testing and debugging features aimed at improving script-to-program communications. The Washington, D.C., company also announced Dogpatch, an Apple-events "traffic cop" that works to ensure that AppleScripts and CGIs execute more efficiently; it is due in June.

► **Maxum Development Corp.** of Streamwood, Ill., announced Phantom, a Mac-based Web crawler due in June, which is based on Duppies from Aktiv Software Corp. of Victoria, British Columbia.

► **Network Multimedia Inc.** of Salt Lake City previewed a suite of AppWare components for Web servers designed to simplify the creation of CGIs for Mac- and Windows NT-based servers.

► **Quasar Knowledge Systems Inc.** of Montara, Calif., demonstrated CyberAgents, a custom CGI construction kit based on its SmalltalkAgents technology.

The kit includes a set of standard CGIs, an HTML forms server and an object-oriented scripting tool.

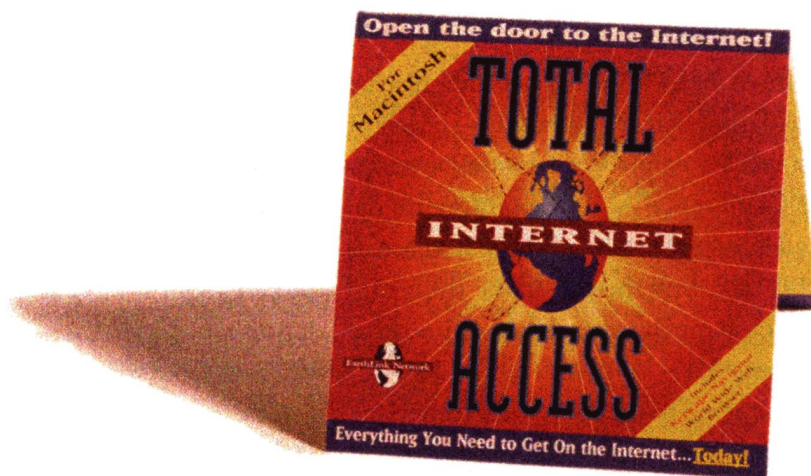
► **Smartcode Technologie** of Montpellier, France, announced a set of Internet C++ networking class libraries for the Mac.

► **Symantec Corp.** of Cupertino, Calif., previewed Ninja, an upcoming rapid applet-development environment for creating Java-based applets and desktop applications. Symantec said the visual tool, due by the end of fall, will let users design programs graphically, with the tool automatically generating and modifying the source code as changes are made in the interface builder.

► **Willows Software Inc.** of Saratoga, Calif., shipped developer release 1.0 of Twin APIW, a tool that ports applications written to Microsoft's Windows API to the Mac.

For more information on these products and other tools announcements see http://www.zdnet.com/macweek. □

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Seeking the promised land

Gilbert Amelio didn't part the nearby Guadalupe River to open his speech at last week's Apple Worldwide Developers Conference — disappointing many, he joked, who had expected him to part the Red Sea as a demo during his talk. Still, he did shake things up dramatically, but not so much as to scare longtime Mac users and developers.

Apple's CEO hammered home the venerable message that the company's contribution to computing has been to make it simple. This was how Apple changed the desktop world, and that's what he expects for the Internet.

Simplicity begins at home for Amelio. To that end he promised cheering developers that he had "put a stake in the ground" to streamline the bloated product line — cutting the 82 hardware SKUs in half, developing a single OS architecture and cutting the number of motherboards by two-thirds.

Developers see this as a way to get their products to market faster — by having fewer machines to test on

— and to cut their development and technical support costs. It may not attract new third parties, but it will be one fewer reason to abandon the Mac.

As is the wont of most new executives, Amelio has also decided to reorganize the company. Although he talked about it only at the highest level, Apple's boss has taken the first step to unhinge Apple's hardware business from its software operations.

The four hardware groups — Alternative Platforms, Information Appliances, Macintosh and Imaging — will be supported by AppleSoft and AppleNet for OS and Internet technologies. There's nothing in the organizational structure that requires the hardware or software teams to work with products they develop. Amelio hinted they will compete with each other.

Apple has long been managed by reorganization, and this could be just another episode in a history of musical chairs. But it could also mean the company is taking the radical view that it is truly a software company that builds hardware. □

THE SECOND DECADE HENRY NORR

The next OS: Call it what you will, but make it stable

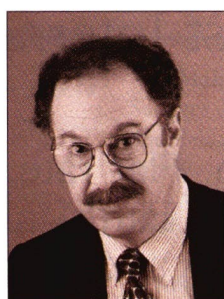
It wasn't unexpected that my Copland column (see 05.06.96, Page 20) elicited a barrage of mail, nor that much of it consisted of merciless flaming. (My favorite message, in its entirety: "Dear Henry, Please attempt to grow a brain.")

But the response surprised me in two ways. First, a clear majority of the 150-odd readers who took the time to write agreed with a large part of my deep-six plan. Second, among those supporting the idea were engineers and marketers from Apple and some of its most important third-party developers.

Common ground

These self-selected cybercorrespondents obviously don't constitute a representative sample of anything. But some themes emerged from their comments (both pro and con) that I hope Apple's new leaders are aware of and taking seriously.

The first theme is that Copland's cus-



tomizable user interface holds little interest to many developers and business users. Only a few proposed abandoning the Appearance Manager altogether — most recognize the concept's appeal to certain customers, particularly in the consumer market. But they question Apple's wisdom in making it the focus of early disclosures about the new OS, and they fervently hope it's not consuming resources that could be devoted to more important structural enhancements.

A second note of skepticism concerns Cyberdog and OpenDoc. Even among well-informed users, who've been reading about these technologies for years, many remain unconvinced they'll yield concrete productivity benefits. If OpenDoc is to be a central feature of Apple's software strategy, the company had better be prepared to undertake a massive and sustained campaign of user education — and, I think, to bundle ClarisWorks or other software that

will give users an easy way to grasp the value of the new paradigm.

Stability foremost

The most striking theme among my correspondents was a deep frustration over the fragility of today's Mac environment and the pace at which Apple has progressed in addressing this problem. Most of those who criticized my proposal did so on the grounds that Copland, by getting rid of the current extension mechanism and protecting many OS and application tasks, will bring a significant increase in stability long before Gershwin could be ready. On the other hand, those who endorsed the deep-six plan typically did so because they demand the greater robustness Gershwin promises.

I don't know which is the shortest path to a more reliable OS, but I am convinced that Apple must find that route. Users are fed up with constantly restarting, re-installing and otherwise rejiggering their systems. Besides, these days Mac users have been exposed to alternatives that suggest such instability isn't inevitable: My mail included suggestions that Apple adopt Linux, the Be OS and even Windows NT. Perhaps Apple can do better. For its own sake and for the rest of us, I hope it can do so soon. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or at henry_norr@macweek.com.



LETTERS

Editorial blind spot

While I enjoy and appreciate the honesty and timeliness of MacWEEK's editorials, I feel the editors at MacWEEK have a consistent and recurring blind spot when writing on Apple's relationships with its customers and developers. MacWEEK, like most other trade and general news publications, neglects to factor itself into the equation.

For example, a recent editorial (05.06.96, Page 20) attempts to describe a typical Mac owner's response to the news of the latest Copland delay by typifying Copland as a "promised enhancement to the hardware [we've] already bought, and the update remains the perfect stuff of dreams. The perpetual delays feel like bait-and-switch tactics, creating unnecessary frustration for [us]." While this statement may or may not be true, it completely ignores the part that the media has played in the Copland release saga as well as Apple's relationship with the media.

Most of the talk surrounding Copland has been created by the Mac trade magazines: While Apple may have sanctioned and encouraged much of it, there can be no denying that the trades have hyped, and maybe even overhyped, Copland. I find it ironic that a MacWEEK editorial suggests that Apple may be guilty of "bait-and-switch" tactics when just a few months ago the same editorial page was trumpeting the need for Apple to delineate a response to Windows 95 and excite and energize its developers and customers.

*Israel Alvarez, manager
Boris Image Group, Boston*

How about Microsoft SMS?

I work at the Los Alamos National Laboratory in New Mexico, and I recently read your 04.29.96 article on LAN management for the Mac (Page 41). I was surprised when I didn't read anything about Microsoft's SMS product. SMS is a very advanced product for managing Macs in either a Mac-only or mixed-Mac and Intel-standard PC environment. We are currently evaluating products to manage our 16,000 Macs and PCs, and I would very much like to get MacWEEK's opinion of SMS.

*Allan Marcus, database programmer
Los Alamos National Laboratory
Los Alamos, N.M.*

Fumbling editorial

Your guest editorial on digital photography by Seth Resnick was disappointing (05.06.96, Page 28). In the first line he positions himself as an expert in digital technology, yet most of his article was no more than

an illustration on how he chose the wrong tool and used it in the wrong situation.

I would rather read how a photographer is using this technology to save his clients money in pre-press charges. Digital capture is bringing about a revolution in the publishing industry. This is far more interesting than the details of Resnick fumbling around with a camera and technology he obviously does not understand. I look forward to your next guest editorial, "Through a typewriter salesman's fingers," a review of word processing software and why it can't compete with the multicolored ribbon.

*Jeff Walker, digital photographer
The Valvoline Co.
Lexington, Ky.*

Visioneer guilty, too

I read with great interest Don Crabb's column concerning Visioneer's PaperPort and how Apple (once again) missed the boat (05.06.96, Page 21).

Yes, I agree: If Apple had a department of evangelists with broad-ranging decision-making powers, such flukes would not happen and we would probably have an Apple-branded PaperPort by now.

On the other hand, Visioneer could also learn a trick or two about co-marketing. Second Glance Software markets a great scanning archiving product that is very similar to Visioneer's PaperPort application except that it supports other scanners, color and other features.

I saw this product at a Macworld Expo and was gung-ho to purchase it to go along with the PaperPort I planned to acquire. Alas, the developers at Second Glance told me that their product does not support the PaperPort and most likely never will, since Visioneer will not release the specifications to allow third parties to work with it.

For crying out loud, it's just a scanner! I decided against the purchase of a PaperPort product in favor of one of the similar products offered by various other manufacturers (all SCSI, all supported by Second Glance). So, before we point fingers at Apple, let's take a good, close look in the mirror, shall we?

*Harald K. Zink, owner
Fizbin Consulting Group
Los Angeles*

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Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; fax (415) 243-3651. We can be contacted on-line: CompuServe, 76077,1351; MCI, 323-1203; Internet, letters@macweek.com. Include your name, address and phone number. We reserve the right to edit for clarity and length.

THE MAC MANAGER DON CRABB

The Apple marketing mission is not impossible

I still can't believe it. I was sitting here watching Letterman do his shtick in San Francisco, working the Palace of Fine Arts crowd into a lather with his ever-popular Stupid Pet Tricks. (Nothing like watching a dog eat cheeseballs popped out of his master's mouth to make you appreciate your own life.)

Then came the commercial break. And with it, I knew that someone at Apple was finally getting it. Getting it with advertising, that is. (I know, I know: The "Apple-Is-Getting-It List" is a long one.)

That someone is Satjit Chahil, Apple's top executive for marketing and advertising. That something he and his advertising team have gotten is a new campaign designed to show the Mac as the cool, powerful, gotta-have-it device that it has always been. Precious few outside Apple have realized that fact, in part because of the recent history of tame and lame ads.

Well, if the first commercial in this new Chahil era is an indication, it's gonna get fun around these parts again.

Apple's IM Force

The new Apple commercial that sucked me in and sent me over the top was a derivative of those ads for the new Tom Cruise movie, "Mission:Impossible." In the Apple variant, there's the usual special-effects-laden scenes from the movie, quick cuts with the "Mission:Impossible" score in the background. You also see product placement shots from the movie made prominent, yet they are subtle enough that you might not realize you're watching a PowerBook promotion.

As the ad reaches its climax, the movie images now appear as if they were coming from a PowerBook 5300 screen. Then you hear the tag line: "Now that you've seen the movie, you might want to read the

book. PowerBook." The word PowerBook appears on the black screen, with Apple's "Mission:Impossible" Web site URL dropped across the bottom of your set (<http://www.mission.apple.com>). Very cool. And exactly what Apple needs to rebuild its tarnished image.

Your mission, Mr. Chahil ...

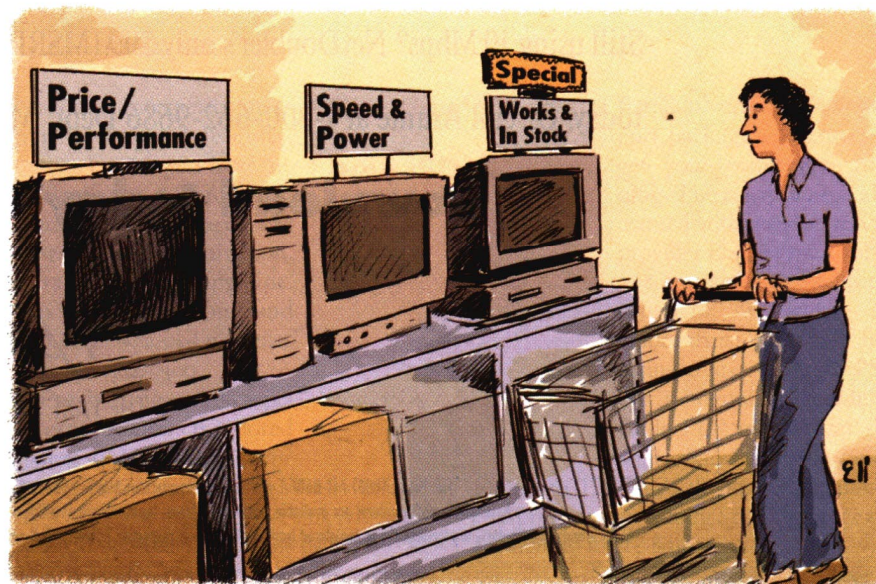
... should you decide to accept it, is to lead your Apple IM Force to create more such ads — ones that grab our attention and

communicate the direct virtues of Macs in a stylish, memorable way. Much as IBM Corp.'s promo featuring the French nun with her beeper makes us think IBM invented the Internet, your mission, Mr. Chahil, is to build a portfolio of Apple advertising that convinces us that Apple invented and sells the best personal computers.

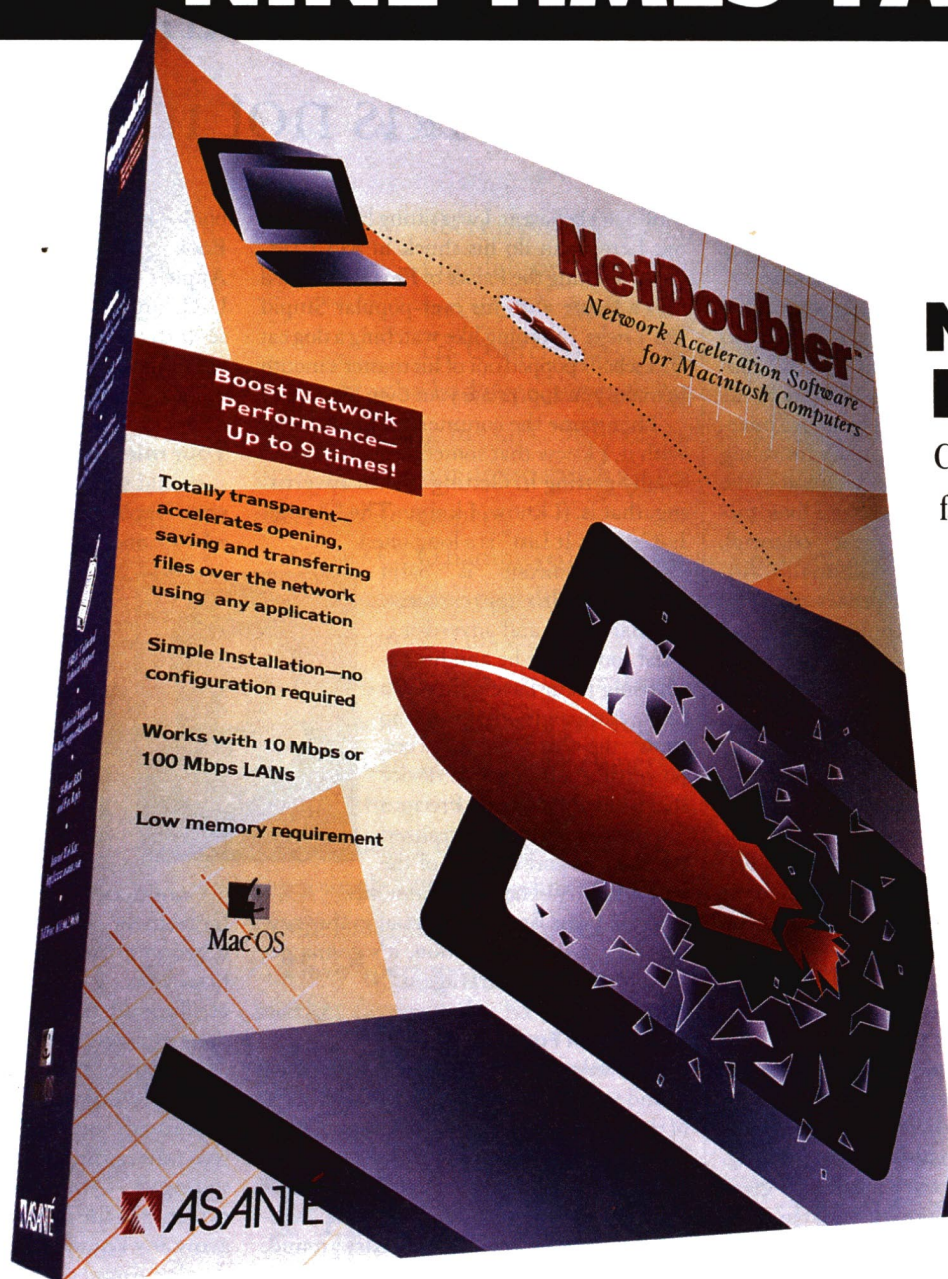
Considering that this seminal idea isn't far from the absolute truth, you won't have to worry about writing flowery or pretentious ad copy — like the IBM ads, which are beyond the pale when you analyze their message.

Of course, should any member of your Apple IM Force be caught approving any unfocused, touchy-feely, New Age nonsense advertising or any ad with schoolkids staring at a QuickTime movie as if it were evidence of life on Mars, the CEO will disavow any knowledge of your actions. And Apple customers everywhere will think of you in the same breath as that most infamous of Apple ads — for the fantabulous HeloCar. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at <http://cs-www.uchicago.edu/~decc/>.



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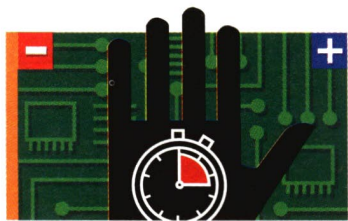
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MACWEEK 05.20.96

Evaluations • Benchmarks • Testing

PAGE 25

COMPARISON

Two PCI cards offer broadcast-quality video for a bargain

By Jeff Sauer

Hardware from Data Translation Inc. and Truevision Inc. already drives some of the most powerful editing systems available. Now both companies are offering native QuickTime digitizing cards for PCI Macs at prices well below \$10,000.

Data Translation's Media 100 qx and Truevision's Targa 2000 Pro digitize, compress into Motion-JPEG and play back video within Apple's QuickTime file format. These cards bring extremely high-quality video to QuickTime-based software such as Adobe Systems Inc.'s Premiere and After Effects, Strata Inc.'s VideoShop, and Specular International Ltd.'s Infini-D.

Both cards are available in base S-video versions and higher-end component I/O versions (see chart, next page), and both use Premiere as their primary editing software. We tested the \$7,995 component version of Media 100 qx and the component-capable \$6,495 Targa 2000 Pro and found the winners in this new open-system hardware competition to be QuickTime software users. For a fraction of the cost of a turnkey system, QuickTime editors can have equivalent picture quality and many similar software features. (Users who don't need component video can turn to the \$5,995 Media 100 qx or the \$4,995 non-Pro Targa 2000.)

Media 100 qx uses the same high-quality Vincent PCI card as Data Translation's high-end Media 100 products. While full-version Media 100 files use a customized ver-

Targa 2000 Pro, Media 100 qx bring high-end results to QuickTime-native software.

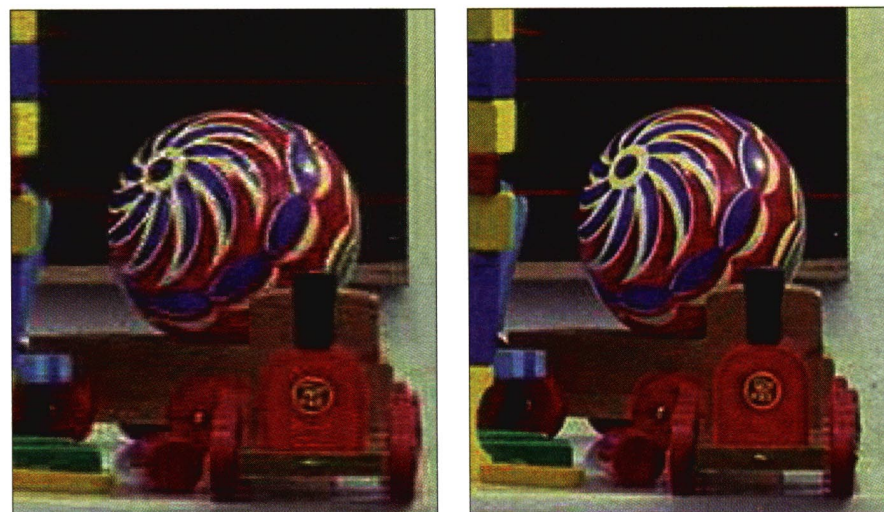
sion of QuickTime with lower overhead, qx files are completely native QuickTime. The qx data rates are somewhat lower than Media 100's, but the picture quality is still superb. The PCI-based Targa 2000 and Targa 2000 Pro use native QuickTime, as did the previous NuBus versions of the card.

Installation of both systems is straightforward, although Media 100 qx affords extra comfort with a diagnostic test utility confirming properly functioning hardware.

The base versions of the Media 100 qx and Targa 2000 incorporate splitter cables for S-video, composite video, and unbalanced RCA audio input and output. For component I/O, Media 100 qx adds an easier-to-use junction box with YUV component video and professional XLR connectors for balanced audio.

The long-promised breakout box for the component Targa 2000 Pro is now slated for the next-generation Targa 2000 RTX—and that's a drawback for Targa 2000 Pro. A well-shielded splitter cable does have component video but supports only unbalanced audio from RCA connectors. An RCA-to-XLR cable conversion solves part of the problem; however, most professional decks have audio gain set to +4 decibels, while the unbalanced audio gain on the Targa remains at -10d. Without an attenuator to pad the input signal, Targa 2000 audio will distort.

Media 100 qx has a real advantage in handling audio. Its software toggles audio



At a modest 2 Mbytes per second, Targa 2000 Pro (left) and Media 100 qx (right) show artifacting, although Targa's is more overt. Note the edges of the ball and train and the ghosting around the lines on the blackboard. The result of bringing CCIR-601 images to a square-pixel Mac monitor is that the Targa 720-by-486-pixel images are elongated.

gain between the +4d signal for balanced audio and -10d for unbalanced audio, enabling direct connection to either professional or consumer decks.

Video resolution

Targa 2000 Pro moves to the high road with the CCIR-601 broadcast resolution of 720 by 486 pixels. By using pixels with a narrower aspect ratio, CCIR-601 attains sharper horizontal definition than the square-pixel computer resolution of 640 by 480. This is a qualified advantage for Targa as the higher resolution requires a higher data rate to maintain the same compression ratio. Also, the industry is in tran-

sition to CCIR-601, and only some Mac applications (such as After Effects) currently support nonsquare pixels. Many graphics programs, such as Adobe Photoshop, still work in square pixels, and images will require a conversion so they don't appear squeezed in a CCIR-601 environment. Conversely, CCIR-601 video plays with pudgy cheeks and elliptical circles on a computer monitor. Targa 2000 Pro supports 640-by-480-pixel and 648-by-486-pixel resolutions, but these require hardware scaling, which cuts data rates virtually in half. This serious performance hit makes Targa 2000 Pro impractical

See Comparison, next page

Brave new Internet world with Netopia ISDN router

By Jonathan A. Oski

Now that Internet connectivity is a virtual necessity, network managers have the difficult task of providing seamless Internet access to users in their organization. Farallon Computing Inc. was quick to spot this trend and has developed products to simplify the job.

Farallon's line of Netopia Internet Routers is tailored to provide ISDN links to the Internet for Macintosh- or Windows-based networks. We tested Model 440, which carries a suggested retail price of \$1,699. Besides providing a simple hardware solution,

Farallon's new ISDN router eases connections between LANs and WANs.

Farallon's optional \$499 support package guarantees to get your connection running. The company has also teamed with Internet service provider PSINet Inc. to offer a comprehensive solution. (Purchase of Netopia includes three months of free connectivity through PSINet.) Netopia uses Multi-Link PPP to perform dynamic bandwidth allocation

for up to 128 Kbps throughput. Built-in compression can enhance throughput even further, up to 512 Kbps.

See Netopia, Page 30

Maximum data throughput for video digitizing



Scores are in megabytes per second; higher is better.

Data Translation, Truevision offer array of digital video features

	RETAIL PRICE	STREET PRICE	ADOBE PREMIERE	RAM COST	TOTAL STREET COST*	S-VIDEO I/O	COM- PONENT YUV I/O	RGB I/O	BALANCED AUDIO	UN- BALANCED AUDIO	AUDIO PLAYBACK	BREAK- OUT BOX	ACCEL. TRANS.	720x486 DISPLAY	640x480 DISPLAY	RAM REQ.
Data Translation Media 100 qx component option	\$7,995	\$6,596	Included	\$700	\$7,296	✓	✓	—	✓	✓	8 tracks	✓	—	—	✓	32 MB
Truevision Targa 2000 Pro	\$6,495	\$5,521	\$495	\$350	\$6,366	✓	✓	✓	—	✓	4 tracks	—	✓	✓	✓ (poor)	16 MB
Media 100 qx	\$5,995	\$4,995	Included	\$700	\$5,695	✓	—	—	—	✓	8 tracks	—	—	—	✓	32 MB
Targa 2000	\$4,995	\$4,000	\$495	\$350	\$4,845	✓	—	—	—	✓	4 tracks	—	✓	—	✓	16 MB
Targa 1000	\$3,295	\$2,899	\$495	\$350	\$4,343	✓	—	—	—	✓	4 tracks	—	✓	—	✓	16 MB
Targa 1000 Pro	\$3,995	\$3,396	\$495	\$350	\$4,840	✓	✓	✓	—	✓	4 tracks	—	✓	✓	✓ (poor)	16 MB

*Total street cost assumes user has a Mac with built-in 24-bit video support. Some Mac models might require addition of a graphics card for optimal performance, which would add about \$600 to the Media 100 qx with component option, Media 100 qx, Targa 1000 and Targa 1000 Pro prices (Targa 2000 and 2000 Pro include graphics acceleration).

Comparison

From previous page

for creating 640-by-480-pixel video. The S-video-only Targa 2000 is 640-by-480-pixel and may be a better choice for multimedia development that targets computer screen playback.

Media 100 qx rebuffs the emerging trend to CCIR-601 in favor of 640-by-480-square-pixel computer resolution. Data Translation cites the smooth interaction with computer graphics applications as more valuable than the additional resolution. Media 100 qx does lose some diagonal line smoothness, but its picture quality is still excellent. The Vincent hardware is ca-

pable of CCIR-601 resolution and should support it in future software releases.

Targa as graphics accelerator

While Targa 2000 Pro is not ideal for 640-by-480-pixel video, it does ease the conversion from 640-by-480-pixel graphics creation to 720-by-486-pixel video.

Truevision is unique in including graphics acceleration and video digitizing of the same card. With control of both the computer and video monitors, Targa's Mirroring mode copies the Mac desktop onto the video monitor, allowing graphic artists to work in 640-by-480-pixel resolution, but see the results of the square pixel

to CCIR-601 nonsquare pixel conversion immediately. Just as important, RGB to NTSC-legal color shifts in graphics or titling can be seen instantly. For heavy graphics, title or compositing work, the capability to mode-switch between Mirroring and traditional Dedicated Video Out is itself almost worth the price of admission. A hot-key toggle would be even better.

Graphics acceleration also leads Targa to process video in RGB color space rather than the analog source-native YUV. The advantage is that most computer applications also process video in RGB. Detractors note that the color space conversion degrades the signal. Nonetheless, Media 100 qx, which processes video in YUV, must do a conversion to RGB for transition rendering and compositing. Admittedly, no conversion is preferable, but the eye must be the final judge of what is acceptable.

Editing in Premiere

Good hardware needs good software, and Data Translation and Truevision have both worked to give Premiere users tighter integration to hardware as well as more professional editing capabilities.

Targa 2000 and 2000 Pro can accelerate 19 of Premiere's transitions to reduce rendering time by up to 80 percent. Data Translation, which licenses and accelerates Premiere transitions for Media 100, said it expects to release transition-accelerating software for qx next month.

Truevision's new Targa Player (a Premiere plug-in) bypasses the QuickTime player for smoother, full video monitor playback at high data rates. It also automatically renders transitions for previews of the work area or entire movie.

Media 100 qx, on the other hand, gets excellent performance from the QuickTime player, allowing for more-fluid editing. You can play clips from any point in Premiere's time line or from the Clip Editor with a simple mouse click. Better still, rendered transitions become independent pieces of media, also playable directly from the time line.

Unfortunately, both methods operate through Premiere's Preview mode, which currently cannot maintain perfect audio-video sync over several minutes, and ultimately must rely on Premiere's Make Movie. QuickTime's 2-Gbyte file limit severely handicaps long print-to-tape projects.

Also, Targa 2000 Pro, unlike qx, can't

play video simultaneously to both the desktop and the video monitor. Media 100 qx always plays full screen to the video monitor, allowing greater visual control of editing, although it limits the desktop Preview window to 160 by 120. Targa plays to the video monitor at full screen only through the Targa Player or when Premiere's Preview window is set to 720 by 486 — an impractical solution, since it takes up the majority of your Mac desktop.

We were also frustrated by the fact that to play back digitized clips in Media 100 qx, you must save them, thus exiting the capture utility. This makes the digitizing process less fluid and has the potential to fill up your hard drives with unusable material.

While Truevision has worked closely with companies such as Diaquest Inc. and Pipeline Digital to ensure deck compatibility, Data Translation's head-in-the-sand approach to deck control hurts qx. Premiere users will want more options than control of only expense professional decks. Current interaction between the qx hardware and Premiere deck control plugs-ins is haphazard and outside of Premiere's margin of error for offsets.

Cut to the data rate chase

Data throughput is the true test of a card's horsepower. Higher data throughput means less compression, less artifacting and a truer representation of the source image.

Data Translation rates Media 100 qx at a conservative 200 Kbytes per frame, or 6 Mbytes per second, down from the 9 Mbytes per second of Media 100. Yet with our most difficult compression-busting test material, qx held steady at 6.2 Mbytes per second over a four-minute capture (see chart, Page 25). With more typical video material, qx regularly digitized segments at data rates of 6.8 Mbytes per second to 7 Mbytes per second, though we occasionally noticed flash frames at transition points when pushing qx to its limit.

Targa 2000 Pro captured our entire four-minute torture test sequence at 5.2 Mbytes per second without dropping frames and captured and played back typical material at data rates of 5.7 Mbytes per second. Surprisingly, those data rates are lower than the 7 Mbytes per second achieved by the Targa 2000 NuBus card in our previous review (see 10.02.95, Page 38).

See Comparison, Page 28

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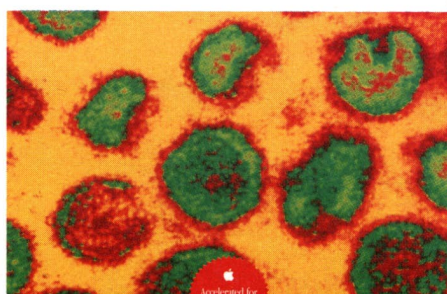
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Comparison

From Page 26

Truevision notes that NuBus data rates resulted from years of fine-tuning, and that process for the PCI card is just beginning.

Picture quality from both systems is very impressive at higher data rates, although Media 100 qx has an edge. While its peak data rates are a full megabyte per second higher than those of Targa 2000 Pro, even at similar data rates, qx produced a cleaner picture. With each card at 5.4 Mbytes per second, Targa 2000 Pro had slightly more visible artifacting around sharp edges. The quality difference is more apparent at lower data rates of 2 Mbytes per second to 3 Mbytes per second, where both cards show clearer artifacting. Targa 2000 Pro also maintained less color integrity to the original source. Turning down the Brightness setting helped but caused a loss of detail in other areas.

Media 100 qx is an audio tour de force, playing back eight unrendered channels of audio. Targa 2000 Pro plays back four unrendered audio channels.

Getting help

Data Translation has a reputation for some of the best technical support in the industry, although it costs an additional \$395 per year. The company's One-Stop service means it will try to help whether your problem is with Vincent, Premiere or your SCSI drives.

Truevision's technical support is free. Staffing has been augmented to handle increased demand as the company moves to a more retail-oriented business model.

When it's not enough

Excellent upgrade paths from both Truevision and Data Translation should ease worries of buying obsolete technology.

With the Vincent card and the component junction box, Media 100 qx owners have all the hardware they need to move up to a more powerful version of Media 100. A software upgrade yields higher data rates, the more tightly integrated Media 100 editing interface and Data Translation's real-time effect capabilities. Preliminary up-

grade pricing, which is \$3,000 plus the difference in list price, seems restrictively high. We expect the final upgrade prices to be more favorable to existing customers.

Truevision's next generation, Targa 2000 RTX, should be available in June and will provide two streams of video for real-time transitions. Prototypes of a handsome breakout box already show balanced audio and hardware keying. An exact list price has not been set yet for the Targa 2000 RTX, although the \$4,995 upgrade for current Targa 2000 Pro owners (plus their

original purchase price) will be less expensive than purchasing the 2000 RTX new.

Conclusions

Videographers and editors on a budget can use either Media 100 qx or Targa 2000 Pro to comfortably match video quality with their counterparts who are using turnkey nonlinear systems. Shorter projects are best suited to this open architecture, since AV sync problems in Premiere's Preview mode hold both cards back from longer projects.

Media 100 qx ultimately wins the picture-quality battle. Eight tracks of audio, real-time playback from the Premiere time line and a subsample window on the desktop give qx the edge in hardware performance. Its capability to play directly from the time line to full screen on a video monitor enhances Premiere's effectiveness. Excellent technical support (albeit at an additional cost) and a software upgrade path to full Media 100 capabilities make qx a solid investment.

Targa 2000 Pro has solid picture quality and graphic artists and After Effects users will appreciate its desktop Mirroring mode for the instant visual response. As a hardware-only company, Truevision encourages software vendors to provide open system solutions, which may provide more flexibility — if editing in Premiere is not enough. Lower pricing makes Truevision a good bet for the cost-conscious video house.

Data Translation Inc. of Marlboro, Mass., is at (508) 460-1600 or (800) 832-8188; fax (508) 481-8627; <http://www.media100.com>.

Truevision Inc. of Santa Clara, Calif., is at (408) 562-4200 or (800) 729-2656; fax (408) 562-4066; <http://www.truevision.com>. □

score card

Native QuickTime digitizing PCI cards

Media 100 qx and Targa 2000 Pro give QuickTime-native software the same visual output quality as much more expensive editing systems. However, both products may need to wait for Adobe to solve audiovisual sync issues before Premiere can fully use the hardware and begin to rival turnkey systems' performance for long projects.

► **Media 100 qx** from Data Translation Inc. leads the way with data rates greater than 6.2 Mbytes per second and a very clean picture even at lower rates. Eight tracks of audio, real-time playback from the Premiere time line and a subsample window on the desktop give qx the edge in hardware performance. Playing clips and rendered transitions straight from Premiere's time line greatly streamlines editing. Data Translation also offers superb technical support (for a price) and a software upgrade path that will keep your system from sliding into obsolescence.

► **Targa 2000 Pro** from Truevision Inc. offers broadcast-resolution video that will appeal to the professional editor, although professional-level balanced audio and the convenience of a breakout box will have to wait until the next generation. Truevision is unique in including graphics acceleration with its video digitizing cards; graphic artists and After Effects users will greatly appreciate its desktop Mirroring mode for the instant visual response. Truevision's tighter integration with deck control and software vendors also gives Targa users more flexibility.

	Media 100 qx 1.0*	Targa 2000 Pro 1.5.1
Overall value	◆◆◆◆	◆◆◆◆
List price	\$7,995	\$6,495
Performance	◆◆◆◆◆	◆◆◆◆◆
Features	◆◆◆◆◆	◆◆◆◆◆
Configuration	◆◆◆◆	◆◆◆◆
Compatibility	◆◆◆◆	◆◆◆◆◆
Documentation/support	◆◆◆◆◆	◆◆◆◆

*With component option.

Key ◆◆◆◆◆ Excellent ◆◆◆◆ Very good ◆◆◆ Good ◆◆ Fair ◆ Unsatisfactory

Targa 1000 and 1000 Pro

For users on a tight budget, Truevision Inc.'s Targa 1000 and 1000 Pro use the same DVR video processing architecture as the Targa 2000 and 2000 Pro and have no discernible difference in picture quality. In our testing, Targa 1000 Pro actually achieved slightly better data rates than the Targa 2000 Pro (see chart, Page 25).

The \$3,295 Targa 1000 supports S-video and 640-by-480-pixel resolution, while the \$3,995 Targa 1000 Pro has component I/O and 720-by-486-pixel

resolution. Like the Targa 2000 Pro, Targa 1000 Pro offers hardware scaling to 640 by 480 but at a severe data rate penalty.

The graphics acceleration of the Targa 1000 and 1000 Pro is lacking. Either the built-in Mac graphics card or a third-party graphics card is required to drive the Mac monitor. For the 1000 series, Truevision reduced the on-board dynamic RAM from 16 Mbytes to 8 Mbytes. Unfortunately, the loss of RAM slows acceleration of Adobe Premiere transi-

tions by about 20 percent. Truevision said it believes more efficient code ultimately will not require as much RAM for fast transitions; beta software we tested supports that claim.

Targa 1000 and 1000 Pro users lose the valuable Mirroring mode for graphics and title color review. In addition, Targa 1000 Pro users lose the 640-by-480 RGB payout. Nonetheless, Targa 1000 and 1000 Pro have good price/performance marks, especially for traditional print-to-tape video editing. — By Jeff Sauer

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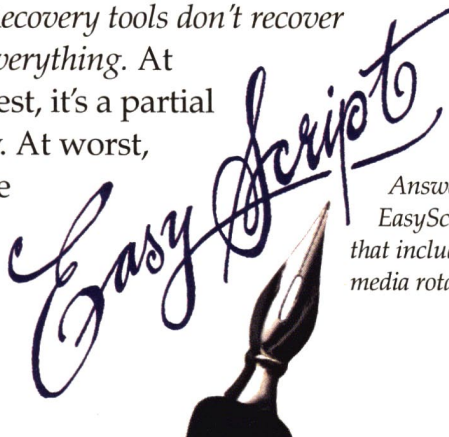
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Think about this the next time you're "backing up" by dragging: Retrospect can scan 200 files a second to see which files have changed. Can you?

sure), what you'll still be missing is every preference, configuration, and font – all the stuff that reflects the way you work.

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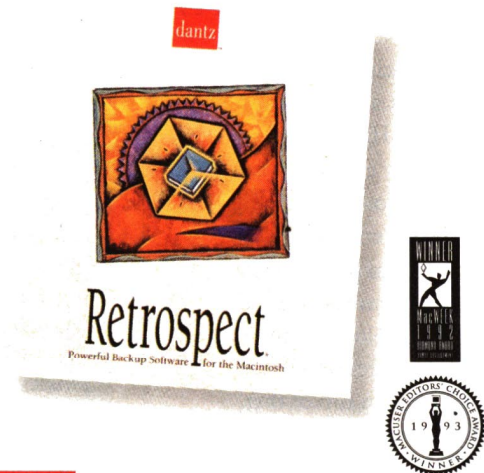
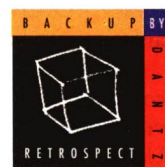
flood, or theft, and those tools won't recover anything.

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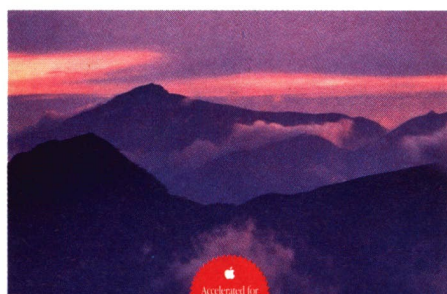
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Farallon's Netopia Internet Router Model 440 is configured for AppleTalk networks. It includes both EtherWave and LocalTalk ports for local network connections. The cabling you need to start is included with the device.

Netopia

From Page 25

The Mac version of Netopia Model 440 has ports for LocalTalk, AUI (attachment unit interface) and Farallon's EtherWave, in addition to ISDN Basic Rate Interface. A separate serial port is used to manage the device from a Mac, using the supplied terminal emulation software (ZTerm). Because Netopia is managed in this way, it's compatible with any Mac running System 6.0.5 or later, although you'll need a TCP/IP-capable system to use Internet services. Farallon provides all the cables you'll need to connect Netopia to LANs and WANs, as well as a cable to connect to a Mac.

Configuration

Near the front of the router is a series of well-placed multistate LEDs to provide feedback on the status of links, power and the internal PC Card, if present. We found these LEDs to be valuable troubleshooting aids during configuration and testing.

First-time setup of Netopia is easily accomplished by connecting a Mac to the device's console port with the supplied cable. Using ZTerm you can quickly fly through

the Easy Setup menus — provided you know all the information you will be asked to supply. The Netopia manual includes a worksheet to help you gather information about your ISDN service, local network and service provider. Netopia issues IP addresses to your Mac clients using either MacIP forwarding or Dynamic Host Configuration Protocol. (You can also use static addressing if you prefer.)

Although the product generally caters to clients outside the Mac market, we'd like to see a more Mac-like interface to device management. The terminal-based interface is usable, but it lacks the elegance Mac users have come to expect.

If you want to go beyond the options available in Easy Setup mode, you'll need to use the Advanced Configuration menus. Netopia provides additional functionality for those who need it, but Farallon obviously wanted to make it easy to get started — and in this it has done an admirable job.

For those savvy enough to use it, advanced configuration offers features such as multiple connection profiles (for those making different WAN connections), the capability to answer and place calls, AppleTalk and AppleTalk Update-based Routing Protocol (AURP) settings, connection scheduling, IP filters (for fire walls), SNMP (Simple Network Management Protocol) settings, and configuration of the unit's PC Card.

Cruise control

Networking neophytes or those without time to learn how to set up Netopia can rely on Farallon to do everything for them. The \$499 Up & Running, Guaranteed! service does just that: Farallon will do everything, including provisioning the ISDN line from your local phone company and configuring the router via the PC Card modem that is included with the service. Farallon also includes Timbuktu Pro, its remote-control software, to help you further configure and troubleshoot problems that arise during installation.

Although your users may equate an Internet router with the Web, Netopia provides much more than a Web conduit. When multiple units are de-

ployed, it's easy to create an AppleTalk WAN using either point-to-point connections or with the Internet as the network's backbone. Netopia support for AURP makes this an effective way to share AppleTalk file and print services among multiple locations over the Internet or between two physically remote sites.

We found it easy to connect two networks using point-to-point ISDN connections, with good performance. Netopia's capability to quickly set up and establish a connection gives the appearance that the remote network is constantly tied to your network. Security concerns surrounding this approach can be addressed through packet filters and AURP's capability to designate specific partners.

Documentation and support

Farallon has done a great job of ensuring success with Netopia. Upon opening the box you are greeted with clear instructions — the documentation's friendliness makes receiving Netopia reminiscent of unpacking your first Mac. The manual is informa-

.....

Netopia is a complete solution for small- to mid-size companies seeking high-speed Internet connectivity.

.....

tive and well-written. Since many users will be unfamiliar with the nuances of ISDN, technicalities of digital transmission service are explained up front — to a degree. The manual is also a good reference for using basic and advanced features of the product.

All customers receive 30 days of toll-free technical support. We found the staff to be accessible and knowledgeable, and it answered all our questions immediately. We didn't try the optional Up & Running, Guaranteed! service, but based on the discussions we had, we anticipate this to be a worthwhile addition for those seeking a no-nonsense, hassle-free connection to an Internet service provider.

Conclusions

For any small- to mid-size organization in search of an Internet connectivity solution, Netopia is certainly worth considering. The product, coupled with Farallon's hand-holding service, makes the process manageable for virtually anyone. And it's competitively priced, since it offers high-speed internetwork routing and also serves as a LocalTalk-to-Ethernet router. With the inclusion of three free months of Internet connectivity through PSINet, you can quickly take a test drive of this product with a relatively small capital outlay.

Farallon Computing Inc. of Alameda, Calif., can be reached at (510) 814-5000; fax (510) 814-5040; info@farallon.com; <http://www.farallon.com>. □

score card

Netopia Internet Router Model 440

Farallon Computing Inc.

List price: \$1,699*

Overall value ♦♦♦♦

Netopia Internet Router Model 440 is a complete solution for small- to mid-size organizations seeking high-speed Internet connectivity. Through AURP, it can also be used to link two or more physically separate sites via direct point-to-point connections. Farallon's good, easy-to-read documentation and knowledgeable technical support combine to help you quickly install, configure and use Netopia. For those seeking some hand-holding, Farallon promises to do everything for you if you purchase its Up & Running, Guaranteed! option (which we didn't test). Netopia's biggest plusses are that it dynamically allocates bandwidth on demand across both B channels, and it incorporates data compression. These factors combine to give you the feel of a robust and speedy (256- to 512-Kbps) connection.

Performance ♦♦♦♦♦

Features ♦♦♦♦♦

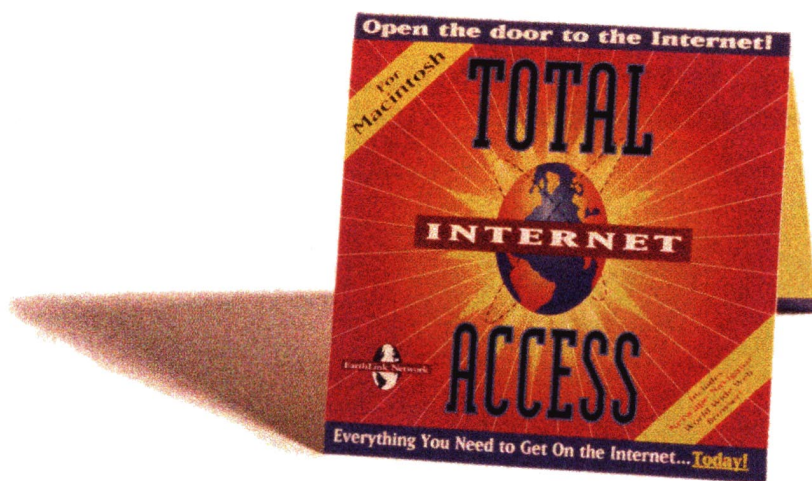
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Compatibility ♦♦♦♦♦

Documentation/support ♦♦♦♦♦

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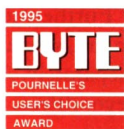
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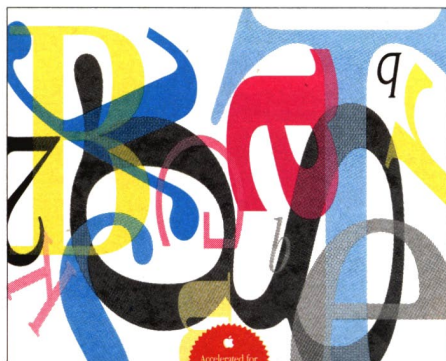


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BeyondPress 2.0 brings XPress docs to Web

By Tom Geller

New version of Astrobyte XPress-to-HTML tool is flexible but still slow.

In the mad rush to provide content for the Web, many traditional publishers are facing problems repurposing their publications after they appear in print. While freeware and shareware products resolved basic issues of graphics file formats and text conversion, they were only partial solutions, and none worked directly with the QuarkXPress files most common in print publishing.

BeyondPress 1.0 changed that, performing the unprecedented task of converting entire XPress documents to HTML. With the recently released Version 2.0, Astrobyte LLC has noticeably improved the graphics-handling and HTML capabilities of its QuarkXTension, as well as made the \$595 software easier to use.

Palettes and preferences

Because BeyondPress is an XTension and not a stand-alone application, its interface is somewhat limited by design. Access is divided between an extensive BeyondPress Preferences window and a Document Content palette. Unlike most preferences windows in XPress, you'll find yourself visiting the 12 panels of BeyondPress' Preferences windows several times while preparing your first HTML document: to map styles, create custom HTML elements and control the default behavior of graphics. (One of the more idiosyncratic Preferences panels fires up your Web browser and sends you to Astrobyte's home page.)

The window underlies much of BeyondPress' power, but it inconveniently cannot be

accessed via a Command-key combination. Through the window, you define several factors: how image maps are handled; how dates and times are automatically inserted; whether to limit export to HTML 1.0 codes (readable by all browsers); the text, background and link colors; how images are shared between pages; and a host of other nontrivial mat-

ters. The system of panels is reminiscent of the Control Panel in System 6.0.8. In short, it's a coherent and well-organized hack.

After you settle on preferences appropriate to your publication, the Document Content palette becomes the focus for arranging and modifying XPress elements, such as text and picture boxes, and for adding HTML characters, such as horizontal rules. To do this, you first create a Content List of your document's elements (via a button on the Document Content palette), separate elements into discrete articles (one article per Web page), drag them into the order that they should appear on the finished Web site and create links between items.

These steps will take some time. Although BeyondPress creates its Content List logically — from left to right and top to bottom — a clear print layout often becomes a simply horrendous Web page because of differences between the two media. Unfortunately, there's no way to get around this tedious organizational step. However, BeyondPress is scriptable and recordable through AppleScript, so the door is theoretically open to automa-

score card

BeyondPress 2.0

Astrobyte LLC

List price: \$595*

Overall value ♦♦♦♦

Astrobyte's dream of an XPress-to-HTML conversion tool comes to fruition with BeyondPress 2, an XTension that operates in the framework of XPress and your chosen Web browser. It's greatly improved over Version 1.0, featuring an enhanced image manipulation window and AppleScript support. Many of the changes reflect the continuing adoption of HTML 2.0, with tables, image maps and background effects. However, conversion from XPress pages is still not a painless process. You'll have to make a multitude of choices and adapt your document significantly before it will be fit for the Web, and BeyondPress' pokiness (especially when managing graphics) adds to the slowdown. Still, the fact that it exports grouped XPress elements as graphics at all is laudable, and it gets easier to use over time. For publishers seeking to move print content onto the Web, it's the only game in town.

Performance ♦♦♦♦

Features ♦♦♦♦♦

Ease of use ♦♦♦♦

Documentation/support ♦♦♦♦

*Upgrades from Version 1.x are \$59 until May 31. Site licensing available starting at five copies.

tion for multiple documents with a common layout.

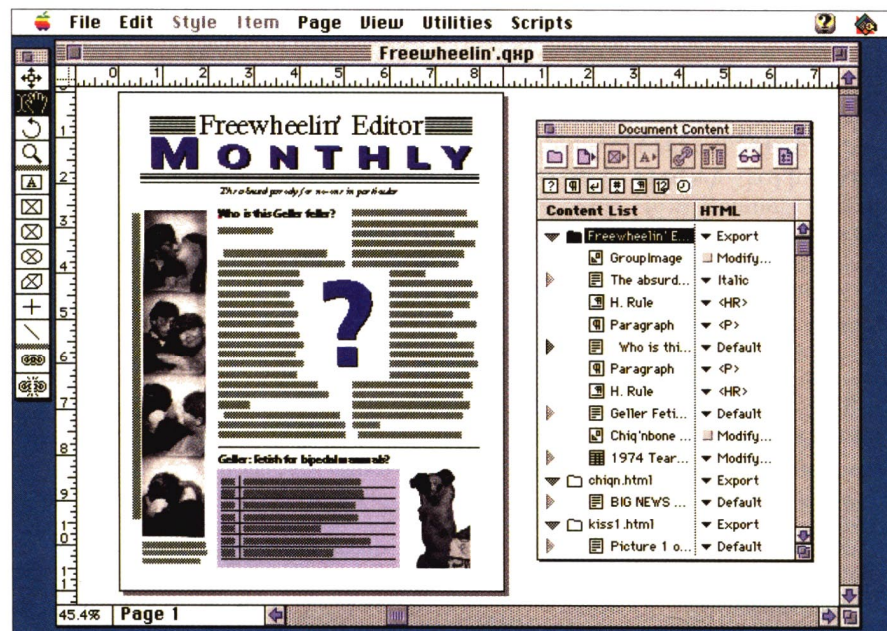
Next to each element in the Content List is a control button or pop-up menu that leads to formatting options. For text elements, these include turning the output into a table, list or, most impressive of all, a graphic. Similarly grouped items are treated as graphics, although a bug in BeyondPress causes XPress to crash when you try to link to a group containing rule elements. A patch on Astrobyte's Web site fixes this problem.

During the entire editing process, a Preview button lets you look at your most recent changes by exporting highlighted elements as HTML and displaying them in your selected Web browser. When all is done, a final export collects the elements in your chosen location. Sad to say, this export process is extremely slow if your document is rich in graphics: A one-page article with four graphics and a table took from one to three minutes to export on a Mac LC III, although a two-page text-only article required only 15 seconds. Furthermore, there is no Export All command, so you're forced to export each article separately. As a result, expect to baby-sit BeyondPress for graphics-intensive jobs.

Graphics, text and codes

While its handling of graphics is slow, BeyondPress is quite flexible in its features for image manipulation. The Image Set-

See BeyondPress, Page 34



In Astrobyte's BeyondPress 2.0, XPress elements such as picture boxes are joined by HTML elements to make articles, each of which becomes a separate Web page.

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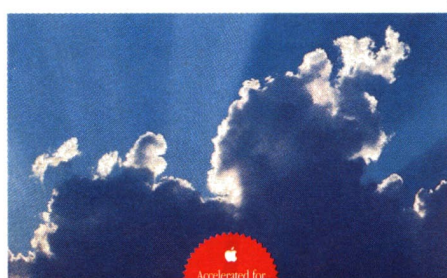
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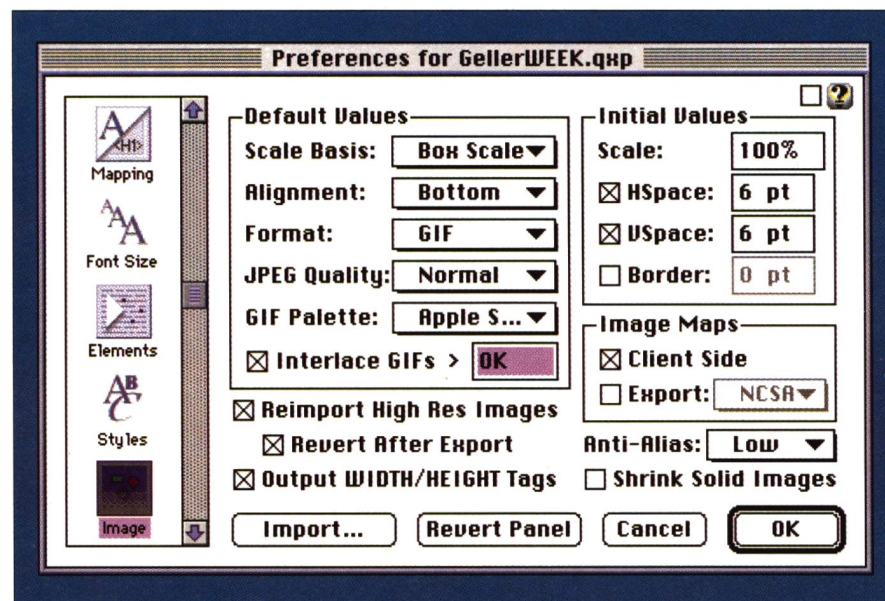
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Many of the basic decisions on how your Web pages will appear are made in the Preferences window. Most of these settings can be overridden on an image-by-image basis.

BeyondPress

From Page 32

tings window, which appears when you click on the Modify button next to graphics elements, has been greatly improved since Version 1. It now gives you control over scaling, runaround, image dimensions, two types of transparency, alternate HTML (shown when viewed by a non-graphical browser), and — wonder of wonders — client-side image maps.

All graphics are converted into JPEG or GIF format. Strangely, BeyondPress doesn't look at the original image file; instead it gets information from its PICT preview. As Web images are usually viewed at low resolution, this is a subtlety, but enlarging these images exposes the system's deficiencies. On the other hand, retrieving image information from the PICT preview means that BeyondPress can create complete Web pages from XPress documents even when the original image files are missing.

Text handling is so good as to seem transparent. BeyondPress converts unusual characters, such as trademarks or umlauts, into their HTML equivalents or commonly used replacements. A system of Style Sheet mapping keeps your headlines looking like headlines; and should you not use Style Sheets, Font Size mapping creates organization on your Web page where it was lacking in your original XPress document. Good typographers are punished, however, by the fact that BeyondPress doesn't recognize true italic versions of typefaces, only italicized versions of the roman typeface.

As icing on the cake, BeyondPress writes good, readable HTML code. Its output has spaces where they should be, making it easier for tinkerers to read and modify the documents later. We did notice one peculiarity: The program tends to apply the italic tag `<I>` redundantly. Its complement of special effects is impressive, although it lacks one subset of HTML found on many Web pages: forms.

BeyondPress 2, which is accelerated for Power Macs, requires a 68020 processor or better and XPress 3.3 or later. Astrobyte

does not give any minimal memory recommendations; however, using BeyondPress effectively means keeping open both XPress (a notorious memory hog) and a Web browser. Therefore, we recommend using BeyondPress only on Macs with at least 8 Mbytes of free RAM.

While not necessary to create Web pages, AppleScript is needed to take advantage of BeyondPress' high level of scripting capability. For technically minded users desiring even greater control, the XTension is itself extensible; a BeyondPress Developer Kit is available from Astrobyte.

Documentation and support

BeyondPress comes with two short books: A Getting Started/What's New in 2.0 booklet and a user guide. They are a great improvement over Version 1's offering, a barely adequate 60-page book. The writing in both books, though, is jargon-filled. We recommend using the XTension a little before reading the user guide. The booklet, together with the tutorial file, is a good place to begin. Balloon help abounds throughout, but it, too, is a bit dry.

Although Astrobyte doesn't mention it anywhere in the BeyondPress documentation, technical support is available during Central-time business hours. The staff cheerfully offered suggestions — and admitted to bugs. Help is also available via e-mail and on the company's Web site.

Conclusions

The Web has come a long way in the past two years, and BeyondPress has grown with it. Whereas Version 1 was underpowered and reflected HTML's paucity of features, BeyondPress 2 has grown in stature and is now emerging as a tool both for publishers with XPress documents to convert and designers seeking an entry to the Web. But, like the Web, it can be an ornery beast — usually slow and sometimes confusing. Nonetheless, BeyondPress 2 is a unique product that successfully fills its niche.

Astrobyte LLC of Denver can be reached at (303) 534-6344 or (888) 278-7629; fax (303) 534-6557; orders@astrobyte.com; <http://www.astrobyte.com>. □

IN BRIEF

Now Utilities 6.0.1

Now Software's system enhancer is still a keeper

Overall value ♦♦♦♦

With the latest release of Now Utilities, Now Software Inc. has tried to give users a taste of Copland functionality in the Finder. But while the new components peer toward the future, others are starting to show their age.

Scoping Copland

The major additions to the \$129 package are Now Auto Type, Now Shortcuts and Now Tabs.

Now Shortcuts lets you choose common file-manipulation operations from selection-specific pop-up menus in the Finder. For example, Control-Option-clicking a folder might yield a menu that includes Open, Duplicate, Get Info, Move to Trash and other choices. Placing these commands close to a selection makes them more convenient than they are in the Finder menus.

Now Tabs presents a gray bar at the bottom of the screen; frequently accessed Finder windows are shown as tabs on the gray bar. You create tabs by dragging windows to the bar or Control-clicking their title bars. Clicking the tab displays the window anchored to the tab bar; you can specify that tabs should collapse back to the bar after a set number of seconds. Now Tabs also includes a Now button, reminiscent of Windows 95's Start button, that provides access to recent items and other features.

Now has quickly proven the value of a new plug-in architecture for Now Tabs and Now Shortcuts with a just-released update, Version 6.0.1, the first of what the company says will be a monthly series of improvements and feature additions. (The free updates are available from Now's Web site.) Now Tabs, for example, can conveniently reveal a Mac's IP address and includes extensive window organization options.

Auto Type lets you enter bits of text in any application by typing a shorthand phrase or pressing a key combination. For example, you could assign the letters "adrs" to an entire address; when you type adrs, the full address will automatically appear. You can also choose the expanded word from a pop-up menu in case you forget the shortcut. Auto Type is also supposed to suggest frequently typed phrases for automating, but it often suggested gibberish.

Of the three new utilities, our clear favorite was Now Tabs, which became a valuable aid in minimizing desktop clutter and quickly filing items into favorite folders.

Initially, we didn't find Now Shortcuts very useful, since it replicated many Finder commands, but Version 6.0.1 added sev-

See Now, Page 36



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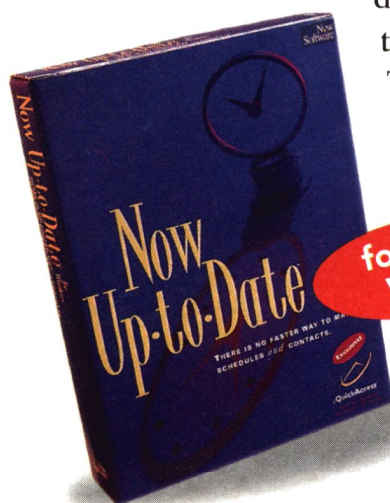
Need someone's e-mail address? Surf over to the Four11 site, where you can

add it into your Now Up-to-Date address book in a single drag and drop operation.

Got an intranet at work? Now Up-to-Date Web Publisher lets you post calendars and address listings with absolutely no HTML programming. Everyone has easy access to employee directories, client lists and project schedules through their Web browser—Windows 95, 3.1 and Mac OS alike.

To download a free trial of Now Up-to-Date, visit the Now Software Time Management Network at <http://www.nowsoft.com/trial2>. You'll find everything you need to get started, including links to the growing list of Web sites already publishing calendars and address books.

To find out how Now Up-to-Date can get you connected, call 1-800-544-2638. Sunglasses optional.

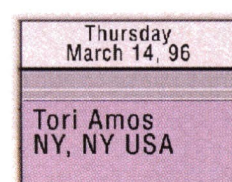


1 Visit www.atlantic-records.com
Now drag-and-drop

2



3 any event into
your personal calendar.



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Now

From Page 34

eral winning additions, including an option to launch files with different applications and filing aids lifted from Now QuickFiler. Unfortunately, most menu commands are not context-sensitive as they are in Windows 95. For example, the Trash's pop-up does not include an Empty Trash command but does include the non-applicable Move to Trash command.

Rest of breed

While Now hasn't eliminated any components or major features, enhancements to the older utilities are minimal. One of the most noteworthy is that Super Boomcrang's menus are now hierarchical, letting you burrow up to 10 folder levels deep. Now Save also shows its captured keystrokes automatically after a crash, which saved our bacon once. On the other hand, some obvious improvements have not been made; for instance, Now Find and Now Scrapbook still don't support drag-and-drop.

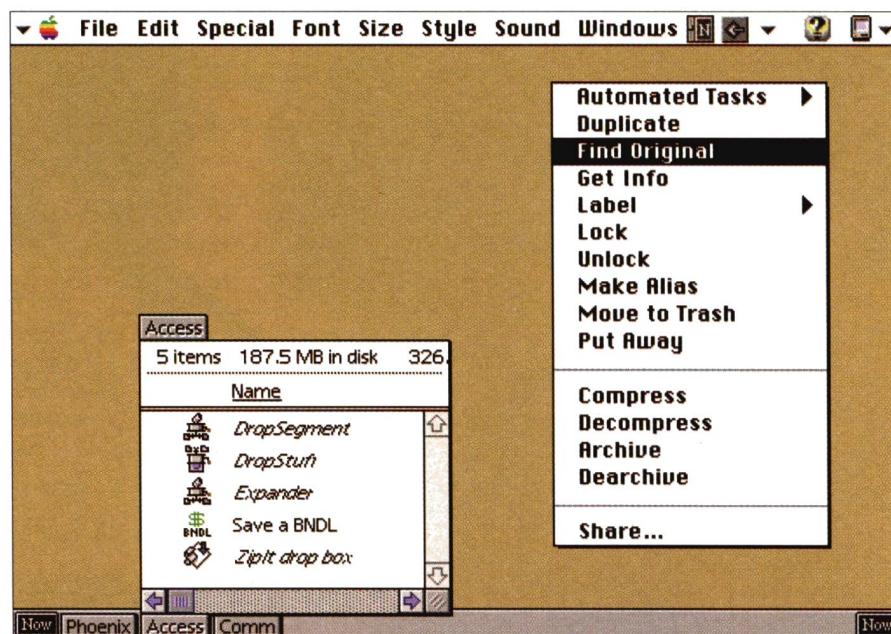
Overall, Now Utilities' forte — providing convenient access to files and folders — remains unchallenged. Individually, though, some utilities don't stack up as well against the scattered competition. Now Folder Menus, for instance, is still neither as responsive nor as feature-rich as PopupFolder 2.0, which is now distributed by ASD Software Inc. Now

Startup Manager boasts a simpler interface than Casady & Greene Inc.'s Conflict Catcher 3.0 but lacks the descriptive features of its stand-alone competitor. Aladdin Systems Inc.'s StuffIt Deluxe 4.0 has leapfrogged Now's QuickFiler in Finder integration. And Now Auto Type lacks the stability and some features of TypeIt4Me, Riccardo Ettore's mature shareware control panel.

Performance

In stretching the limits of the Mac interface, the Now suite has often caused compatibility problems for users. While a public beta test seems to have made this collection more stable than Now Utilities 5.0 (see 10.17.94, Page 33), we experienced problems on an extension-laden Power Computing Corp. PowerWave, including freezes at start-up as well as Type 10 and 11 errors in Netscape Navigator and at shutdown. Version 6.0.1, however, has proved to be more stable.

Now Software has moved its quality documentation from paper to Adobe Systems Inc.'s Acrobat format on CD-ROM, which makes it searchable and more easily distributed. While the company has beefed up its online and fax-back support, it provides free phone support via a toll call for only 60 days after purchase. The half-hour wait for help offered a jaded perspective on the company's slogan, "It's about time."



Now Shortcuts (right) lets you apply many Finder commands on selections without venturing into the menu bar. Now Tabs lets you keep Finder windows docked at the bottom of the screen.

Conclusions

While many of its components have been outclassed, it's hard to match the capabilities Now Utilities collectively offers. The new additions in Version 6.0.1 have done more to improve the collection's value than incremental improvements to older components would have.

Our initial experience, though, makes us look forward to a future release that uses

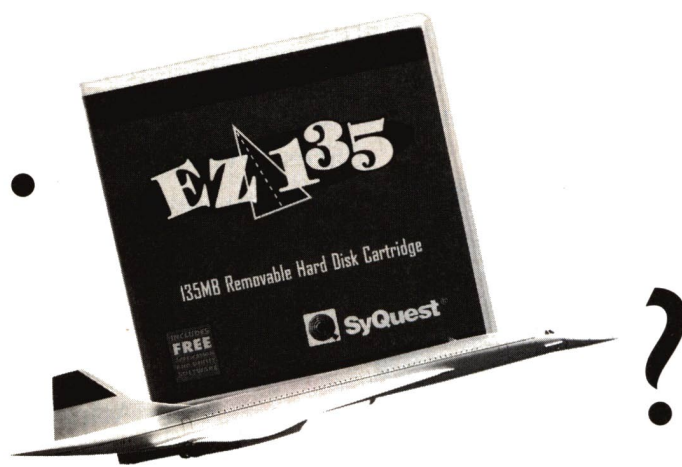
Copland's new extension mechanism, making the package finally as stable as it is functional.

Upgrades from previous versions are \$29.95.

Now Software Inc. of Portland, Ore., can be reached at (503) 274-2800 or (800) 416-5977; fax (503) 274-0670; utilities@nowsoft.com; <http://www.nowsoft.com>. — By Ross Scott Rubin



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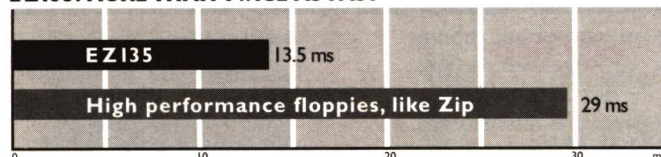
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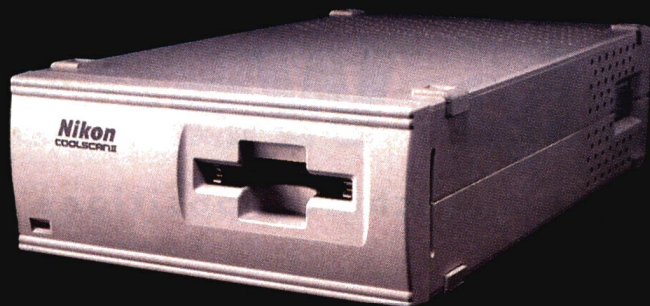
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Atlanta, GA

Director Programmer

Short term assignment in metro Atlanta. Knowledge of Lingo programming in Director, XPress and Illustrator.

Job# 6543

\$21/hour

Technical Support

Short term assignment which requires troubleshooting Mac hardware and System 7.5.

Job# 6539

\$18/hour

Database Developer

Filemaker Pro 3.0 assignments. Knowledge of scripts and buttons are a must. Requires at least two years of prior experience.

Job# 6535

\$15/hour

Boston, MA

Web Designers/Masters

Java, HTML, CGI, Quicktime, Shockwave, other video/audio web & multimedia technologies. 2-5 years in graphic design with an agency. UNIX helpful.

Job# 13870

\$18-\$30/hour

Multimedia/ New Media/ Interactive Specialists

Macromedia Director (Lingo expert), Shockwave, 3D modeling, VRML, GUI, interactivity (user controlled media/scored tests, etc.) a must. CD-ROM development experience too.

Job# 13870-1

\$20-\$35/hour

Chicago, IL

Technical Support

Upgrade project from Windows 3.1 to Windows '95. Software upgrade, inventory.

Job# 10233

\$15-17/hour

Cleveland, OH

Lingo Programmer

Lingo programmer with graphic design and/or authoring, animation, 3D modeling, audio and video knowledge. Experience in Photoshop, Director and IconAuthor is required. Programmers with C++, Visual Age or equivalent are also needed.

Job# 844

\$15/hour

Support Specialist

Software support specialist is needed to handle a Mac and PC environment. Knowledge of MS Office Suite as well as a few graphics packages are required. (i.e. XPress and PageMaker) This position is via phone and would provide support for 200 end-users.

Job# 752

\$14/hour

Dallas, TX

Help Desk

Macintosh Help Desk candidate is needed for a perm position in Dallas. You must have strong Macintosh, hardware and software, and excellent customer service skills.

Job# 4855

\$10-12/hour

Denver, CO

Project Technicians

3-4 techs needed to test software localization project, verifying programs, working with translation specialists.

Job# 4441

\$15/hour

Denver, CO (cont.)

Database Administrator

MS Access expert to design and tweak existing database, standardize data, perform queries, customize & generate reports.

Job# 4415

\$20/hour

Programmer

Recoding application developed in MS Visual C++ for Windows to C++ on the Mac. Need to know C++ and toolbox & be able to work with Microsoft Visual C++ code.

Job# 4414

\$45/hour

Detroit, MI

Help Desk Assistant

Support end users at schools using client's custom Internet access software. Assistance provided over the phone.

Job# 6716

\$10/hour

Database Programmer

Complete redesign of a 4D database. Add procedures, write scripts.

Job# 7142

\$25/hour

Technical Support Personnel

Mac/PC network. Troubleshooting printing and software problems.

Job# 6820

\$25/hour

Houston, TX

Technical Support

Work for a "Big Six" accounting firm. Mac platform, troubleshoot h/w, s/w, work with PowerBooks. Some DOS/Windows. Support MS Office and TCP/IP.

Job# 3667

\$30-35K/year

Technical Support

Nationwide company is looking for Macintosh/PC technical support specialist. Must be familiar with Novell networking and experience with Macintosh end user support.

\$20-25/hour

Los Angeles, CA

Technical Support

For Creative Services dept. Maintain, troubleshoot Mac & Windows machines. Work with scanners, Fiery printers, multimedia, the Web, A/V systems. Need graphics skills.

Job# 15361

\$20-25/hour

Technical support

General h/w, s/w installation and maintenance. Strong Mac and PC knowledge. Networking a plus.

Job# 15180

\$17-20/hour

Technical Support

3 years experience supporting office environment. Maintain mostly Mac network. Backup procedures, LAN/WAN experience helpful.

Job# 15420

\$18-25/hour

Technical Support

In Creative and Admin. depts of architectural design firm. Support AutoCad, Networking, UNIX, graphic design software. Fast paced environment.

Job# 15399

\$18-25/hour

Irvine, CA

Macintosh Programmer

MS solutions provider needs work on comm part of their application. C++ & Applescript. File transfer, management for PC/Mac & Mac/Mac conversion. Comm toolbox a must. FoxPro helpful.

Job# 3791

\$30-120/hour DOE

Miami, FL

Systems Engineer

Systems Engineer is needed to help support a prepress environment. Qualifications include strong customer service, prepress experience, knowledge of networking (Appletalk & Ethernet), solid Macintosh skills and ability to troubleshoot all computing issues.

\$17/hour

Minneapolis, MN

Lingo Programmer

The rapidly growing multimedia development community of Minneapolis is in need of Macromedia Director Lingo and C++ programmers. Candidates must be able to hit the ground running and produce code with little ramp up time. Sample of previous work is a must.

\$25/hour

Philadelphia, PA

Lingo Programmer

Work in Director for consulting firm.

Job# 5525

\$23/hour

PC Systems Specialist

Basic troubleshooting. Networking experience helpful.

Job# 5480

\$15/hour

New York, NY (cont.)

Help Desk

Tier 1 support for large publishing house. Quark, Illustrator, Photoshop & general h/w and peripherals issues.

Job# 8653

\$22/hour

San Diego, CA

Database Administrator

Progressive multimedia firm needs experienced 4D programmer.

Job# 4031

\$20-30/hour

Lingo Programmer

Director professionals with 1+ years professional experience with Lingo. SQL or database experience a plus.

Job# 4051

\$15-25/hour

San Francisco, CA

Network Specialist

Must have detailed knowledge of horizontal wiring, bridges, routers, hubs, WAN connections, operations, maintenance functions and good troubleshooting abilities. Swing shift 3PM-11PM!

Job# 5575

\$17/hour

Silicon Valley, CA (cont.)

MIS/Data Systems Consultant

Consult on and construct a system (networked database or other) so any client station has access all account info for online publishing house. Customers should be able to dial into sales and place orders via the Web. Possible future web site development.

Job# 4000

\$25-50/hour

Mac Programmers

C/C++, Code Warrior and MPW. Develop comm software. ISDN, modem technology, & comm toolbox a must. 5-6 perm positions including a Sr. Engineer.

Job# 4277

\$50-75K/year

Mac Programmers

Using C++, Code Warrior and MPW. Multimedia graphics knowledge including QuickTime and QuickDraw required. Drag & Drop. Several long-term openings.

Job# 4284

\$25-60/hour

Technical Support

2 positions. Support customers using communications software that bridges platform connectivity issues. Internet knowledge needed.

Job# 4286

\$15-17/hour

Help Wanted

technical positions available

Technical Support

Perform software upgrades, install new applications, order and upgrade new systems, provide preventative maintenance, administer Retrospect back up system, investigate and participate in computer training courses, and evaluate and test new products.

Job# 6705

\$17/hour

System Specialist

Support the staff designers with both applications and hardware. Must be proficient with Photoshop, Illustrator and FreeHand and have a good understanding of business processes. Qualifications are at least five years on the Macintosh and cross platform experience is desired.

Job# 6080

\$18/hour

Technical Support

Service request issues, troubleshoot Macintosh, PC and UNIX platforms, install hardware and software, conduct user training, handle networking issues, and arrange for repairs when necessary.

Job# 6365

\$17/hour

Visual Basic Programmer

Develop a decision analysis program which has already been started. Qualifications include at least 3.5 years experience with 1-2 years of Visual Basic programming required.

Job# 6678

\$18-25/hour

Systems Administrator

Mac LocalTalk network, linked FileMaker Pro 2.2 & ACT! databases. They want Ethernet, FileMaker Pro 3.0, & dedicated server in future. Manage backups, 401K reporting, report writing for HR consulting firm.

Job# 6422

\$25/hour

Jr. Programmer

Develop bibliographic database running on 32-bit Windows & Mac. C/C++ for Mac. Toolbox, TextEdit, Script Manager, WorldScript and File Manager. User interface knowledge & cross platform development experience is a plus.

Job# 6608

\$20-30/hour

Silicon Valley, CA

Field Engineer

PC and Mac installation, repair & maintenance. Hardware and software testing, training & research.

Job# 4055

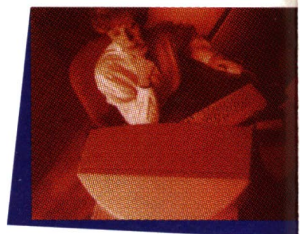
\$20/hour

Software Localization Engineer

Localize software for 24 languages. Must have prior experience. Not a development position. Entry-level engineers will be considered.

Job# 4041

\$40K/year



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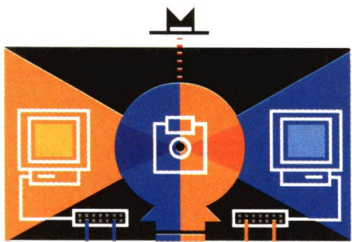
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SOLUTIONS

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By 2000, nearly 90 percent of Web server software will be for intranet rather than Internet use.

— International Data Corp.

MACWEEK 05.20.96

Product Trends • User Experience • Expert Advice

PAGE 39

INTRANET

Multiplatform users benefit from Web-based technology

By April Streeter

Companies are turning Web technology loose on private LANs, and the resulting intranets are disseminating vital information as well as enabling users to tap into databases and simple groupware features. Intranets are also helping IS managers solve an old problem: distributing company data to multiplatform users.

Perhaps the most attractive feature of intranets is their heterogeneity. With Web browsers and server software available for the most popular operating systems, users can access information regardless of whether the data sits on a Mac-, Unix- or Windows-based Web server. As long as LANs support TCP/IP, Web servers are a fairly easy addition to the network.

The speed with which an intranet can be created contributes to its popularity with managers. David Fattahian, an information management officer with the U.S. Department of Defense in Washington, D.C., last fall received a mandate from senior department officials to come up with a system to manage the flow of information for a special technology task force, as well as allow task force members to share schedules. The catch: Fattahian and his team had to get the system up and running within 30 days.

"We looked at Lotus Notes and everything like it," Fattahian said. "We didn't know exactly how many users would eventually be using the system or just how scalable it had to be." Fattahian said he felt Notes, from Lotus Development Corp. of Cambridge, Mass., could solve his problem, but at a high cost.

"I think we have a responsibility to the taxpayers to look for the low-cost solution," he said. "If we had done Notes I think it would have cost, everything included, about \$200 per user."

While Fattahian and his colleagues had no experience in constructing a Web server, they decided to create the department intranet server with WebStar from Quarterdeck Corp. of Marina del Rey, Calif. Fattahian had users accessing pages with Netscape Navigator within two weeks.

"We could've done it even faster if we had known what we were doing," he said. "I don't think there's a chance that we could have ever put up Notes that quickly."

Department officials who watched Fat-

"It's essential to infuse the intranet into an existing communication process, replacing less appropriate channels."

— Todd McGuire,
BDM Technologies Inc.

tahian demonstrate the intranet before it was deployed were amazed that the server was a Macintosh running WebStar, but Fattahian said it has been a problem-free solution.

Keep it fresh

Most of the department's external Web servers are Sun SPARCstations running Solaris, Fattahian said. "But with WebStar on Macs you can quickly throw up the server. There's no way you can do that with a Unix box." He also said he doesn't consider the intranet servers to be an unreasonable management burden, especially when compared with Unix.

"We've gotten a lot of wonderful feedback, and I have just one person in charge of the internal Web servers," Fattahian said.

Content for Fattahian's intranet is supplied by users via Acrobat from Adobe Systems Inc. of Mountain View, Calif. Fat-

tahian's next planned improvement is to give the intranet more groupware functionality by adding access to Now Up-to-Date from Portland, Ore.-based Now Software Inc. The Now Up-to-Date 3.6 Mac beta, which Fattahian is currently testing, will let users convert Up-to-Date calendars and address books to Web pages, as well as drag and drop schedule information from the server back to individual calendars. "Within an hour of downloading the beta I had it integrated with the WebStar server," he said.

Intranets can make it simpler for organizations to keep internal information fresh.

"Companies went from putting out paper-based manuals to distributing important information on CDs, which was less expensive than printing but didn't solve the problem of outdated data," said Tim Wehr, a consultant and database developer at Internet Marketing Group Ltd. of Iowa City, Iowa. "The unique aspect of using Web technology is that your information never needs to be stale."

Todd McGuire, a project manager at BDM Technologies Inc., a technology consulting company in Denver, has constructed a number of Mac-based intranet servers for his own company and for outside organizations. McGuire said using the existing LAN/WAN infrastructure for the intranet keeps network upgrade costs minimal, and he said

See Solutions, next page



DAVE EMBER

MACINTOUCH RIC FORD

Apple improves Internet services, addresses quality

It is encouraging to see Apple improving its Internet-based services, which strongly impact support costs, quality, customer satisfaction and market perceptions. The company still needs to improve performance and availability of the server systems, but recent redesigns have made it easier to navigate through the Web site and find things.

The Tech Info Library (TIL) is an essential support aid, but there is room for improvement here, too. The Internet version has weaker search functions than other implementations, such as those on AppleLink and CompuServe (see 05.01.95, Page 38 and "Searching Help" on the TIL home page at <http://til.info.apple.com/til/til.html>).

If you can't get through to the busy server, another version of the TIL is available on the Internet in an alternative format. The gopher server at gopher://info.apple.com/11/TIL/ offers a hierarchical view that works better for some kinds of searching tasks.

The TIL helped verify a problem reported by readers with digital audio-video (DAV) hardware in early Power Mac 7500 and 8500 systems (see the TIL note "Power Macintosh 7500 & 8500: Using a DAV Card"). The defect affects third-

See MacInTouch, next page



For (from left) Benny Hinahon, David Fattahian and Jeffrey Turner, putting up a Web site for a special technology task force within the U.S. Department of Defense turned out to be a low-cost, low-hassle solution.

ROB CRANDALL

SOLUTIONS

From previous page

the cost of the browsers and server software is negligible for large companies.

"An intranet's costs are mostly in designing it to stand up to the changes that will need to be made as employees use the system and come up with ways to make it more useful," McGuire said. "For example, since employees that use the intranet started spending more time accessing external sites, upgrading the connection to the global Internet [was necessary]."

As managers have to deal with the addition of the servers to the overall management load, McGuire said they must also focus on content creation and ongoing content "grooming" by users.

"Our system administration of Web servers and databases is centralized," he said. "Ongoing grooming should be pushed out to the content providers that were originally in

place before the intranet existed."

BDM's series of intranet servers, which are available to its 7,000 users, are in a constant state of development. One Web server helps employees find experts in various technology skills, and another offers project-management materials and employee discussion groups. "It's essential to infuse the intranet into an existing communication process, replacing less appropriate channels," McGuire said.

Dynamic data

While intranet servers aren't sophisticated enough to replace client-server systems, the links that database vendors are putting into their Mac database products are expanding the servers' usefulness by allowing them to link to sources of legacy data.

Internet Marketing's Wehr created a number of Web servers for the University of Iowa that use Web FM 2.0 from Web Broadcasting Co. of Palo Alto, Calif., to link Claris FileMaker Pro 3.0 databases to

Web intranet pages. Students in the computer science division fire up Web browsers to access their test scores and course grades from Web pages that get data from a FileMaker database. Wehr, who develops databases, said he doesn't think the capability to connect intranet pages to database data will eliminate the need for developers to write applications, but it will improve users' access to existing data and release management from the burden of finding — and paying for — client software in multiple operating systems.

"Every company has database information they'd like to display," Wehr said. "I think it will come down to whether managers want to spend the money on creating the client software or on hiring somebody to create the intranet side."

Maintaining boundaries

Another Web FM user, at a large data processing company in Cleveland, said the main virtue of Web and database integration is that it eliminates the constant worry of which users have what client applications.

"The reason we're even looking at Web FM for our intranet servers is we have such a mixed bag of machines," Wehr said. "Simply from a monetary aspect — never mind the headache of keeping up to date with client versions — it just makes good sense to use Netscape as a universal client." But he agreed intranets aren't yet replacing database front ends. "There's the question of the overall appearance. It's hard to get the same look on a Web page that you have on a really well-designed FileMaker form."

With Internet business use constantly

growing, and remote access giving more outside users, customers and suppliers right of entry to company LANs, the boundaries defining which Web servers are Internet and which are intranet start to blur.

Wehr's Internet Marketing, for example, hosts many of the University of Iowa's Mac-

based Web servers and integrated databases. Some of the servers, such as the job posting board, are publicly available to anyone who has the server's URL. Others are private intranets designated for communities of students and protected by password and other security measures.

Ross Halleck, principal at Halleck De-

sign in Palo Alto, Calif., created his firm's Web server to advertise its work. But Halleck said he realized he could also use the server to form semiprivate intranets with his clients. Halleck now posts design work in progress on the Web and gives clients a private URL so they can review the work and respond online with comments and revisions.

"It significantly reduces the number of meetings we have to have and allows us to work in continual time with clients," he said. Since the clients' assigned URLs are complex and cryptic and the work is on the server for only short periods, Halleck said he doesn't see security breaches as an issue.

"We're not doing anything supersensitive; it's not rocket science," Halleck said. Instead, these semiprivate intranets have given his company a competitive boost. "Moving from a more traditional form of working to using the private forums on our Web server is an evolution of the way we work together as a group and with clients. It's been a big benefit for our business." □

Web tools selection grows

Intranets barely made a market blip when International Data Corp. of Framingham, Mass., and other market researchers started tracking business use of the Web two years ago. Now, depending on whose numbers you look at, 20 percent to 40 percent of medium and large organizations either have intranet servers or are planning a pilot server program.

There is a small but

thriving collection of Mac-based Web server and page-creation tools. Quarterdeck Corp.'s WebStar, created by Chuck Shotton, the author of MacHTTP, is currently the most popular server software, though not the least expensive.

Both freeware and commercial products are available for page creation, with BBEdit from Bare Bones Software Inc. of Natick, Mass., and PageMill

from Adobe Systems Inc. as well-known examples.

HTML page creation is also increasingly a feature of word processing and office productivity software such as WordPerfect from Corel Corp. of Ottawa, Ontario, and Claris Corp.'s ClarisWorks. And while not as rich as in the Windows space, the pool of extensions to add bells and whistles to Web servers is constantly growing.

— By April Streeter

MACINTOUCH

From previous page

party digital video cards that use DAV, and the solution is a replacement of the Power Mac's motherboard. Apple should handle this free through an authorized service provider.

Good news

While the Tech Info Library is designed for mainstream Mac customers, there are other interesting and useful documents in Apple's developers service areas. Tech Note 1017, for example, is the definitive public description of System 7.5.3. Along with many other topics, it briefly notes the SCSI ID 5 bug (see 03.25.96, Page 39) and some additional problems with SCSI Manager code. This document is at <http://dev.info.apple.com/technotes/tn1017.html>.

Of course, not all bugs are documented publicly by Apple in the TIL database or elsewhere. As I was finishing this column, I got a call from Apple about previously undisclosed problems with PowerPC 603-

based systems (5200-, 5300-, 6200- and 6300-series desktop and laptop systems). The company is now instituting "repair extension" and dealer exchange programs that address a wide range of problems with these systems. This is good news for customers.

On the software side, System 7.5.3 has new code in critical parts of the operating system, such as the Resource Manager, the Dynamic Recompilation Emulator and the Memory Manager, that affect applications across the spectrum. I plan to follow up with Apple on a few unconfirmed reports of subtle glitches in some of these areas.

Bad memories

RAM compatibility problems noted last year with previous models (see 07.31.95, Page 38) continue to bedevil buyers of newer Macs. One reader performed extensive tests to isolate crashes on a Power Mac 5200 system. Rearranging and recombining SIMMs, he

checked memory reliability with each combination. A 32-Mbyte SIMM worked in one slot but failed in another. When an 8-Mbyte SIMM was added, the 32-Mbyte SIMM began working again in the "bad" slot. A replacement 32-Mbyte SIMM eventually solved the problems, working correctly in all combinations.

Another reader installed 16-Mbyte DIMMs in slots A1 and B1 in a Power Mac 8500, leaving the original 8-Mbyte Apple DIMMs in slots A4 and B4. The system crashed with Type 11 errors until he moved the 16-Mbyte DIMMs to the

high slots and the 8-Mbyte DIMMs to A2 and B2.

A third reader's Power Mac 9500, loaded with RAM, crashed when sending files across a network until the single Apple 16-Mbyte DIMM shipped in the computer was paired with another.

Readers report getting 256-Kbyte cache DIMMs that work in one Power Mac 7500

but not in another. Third-party cache vendors acknowledge compatibility problems with 7500 systems and have been addressing them with various products and procedures.

Apple denied vendor claims that 7500 motherboards marked VAL-4 are associated with the trouble or that these are pre-production boards. Some VAL-4 boards do work correctly with these cache cards, and the whole thing is mysterious. This is another area that Apple could document technically and address publicly, although Apple's own 256-Kbyte cache cards and some third-party cards work successfully.

Apple's latest Power Macs — the 7600 and new 8500 and 9500 models — have revised motherboards and revised processor cards, but it is not clear whether these changes affect cache and RAM compatibility or the ability of customers to mix and match CPU cards with earlier PCI-based Power Macs. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to ricford@macintouch.com on the Internet or 72511, 44 on CompuServe. The MacInTouch home page is at <http://www.macintouch.com/>.

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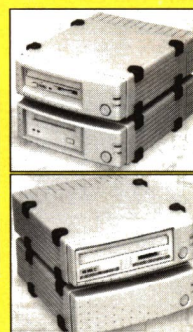
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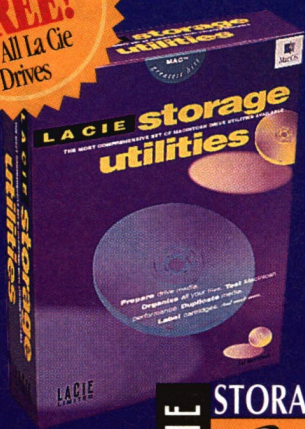
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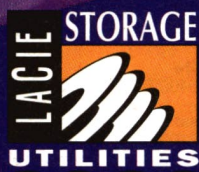
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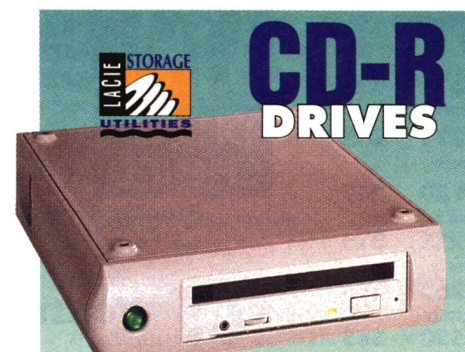


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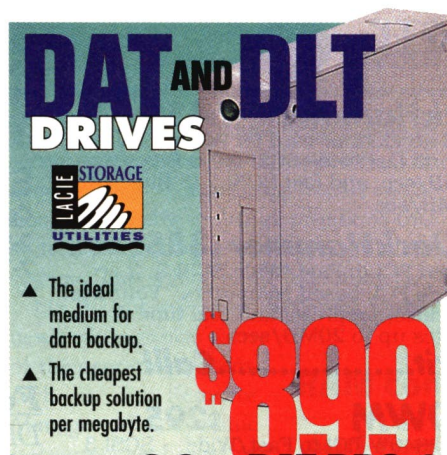


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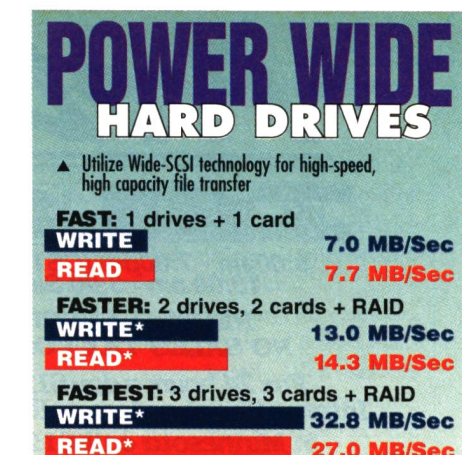
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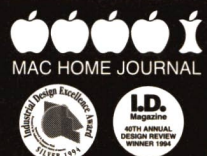
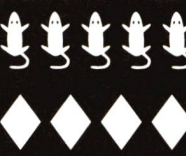


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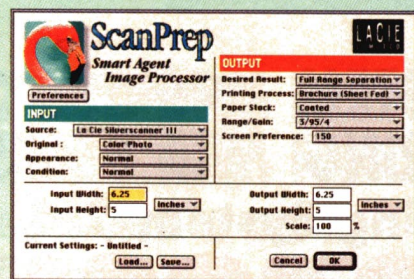
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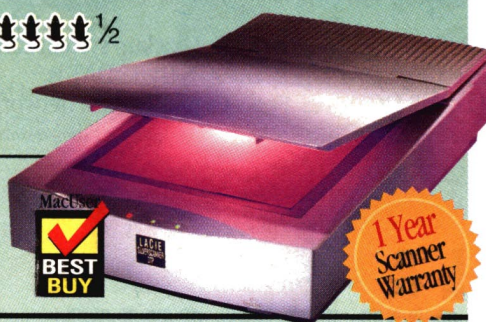
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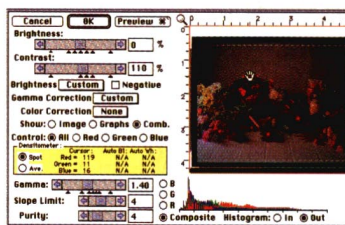
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APS CD-ROM DRIVES

Model	Features	Awards	Internal	SR2000
APS T 3701	6.7X-SPEED			\$249 ⁹⁵ \$299 ⁹⁵
Sustained data transfer rates up to 1000KB per second!				
APS PD4	CD-ROM/Removable Optical		N/A	499 ⁹⁵ *
650MB optical storage with 4X CD-ROM in one device				
APS CD-R	Recordable CD-ROM		N/A	899 ⁹⁵ *
FREE TOAST CD-ROM Pro recording software (\$500 value)				
APS CD-R Pro	4X4 Performance CD-R		N/A	1799 ⁹⁵ *
FREE TOAST CD-ROM Pro recording software (\$500 value)				
APS CD-R Mastering System 2.0	4X read/4X write recording engine and a 2GB AV scratch disk		N/A	2499 ⁹⁵ *
APS CD-R Mastering System 4.0	4X read/4X write recording engine and a 4GB AV scratch disk		N/A	2999 ⁹⁵ *
*While supplies last! CALL NOW!				

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Early Summer 1996 CATALOG
Featuring our complete line of APS Drives, Supplies & Accessories



APS QIC & DAT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Internal	SR2000
APS HyperQIC™	2GB		N/A	\$499 ⁹⁵
QIC 3080 Mechanism				
APS DAT	2GB		\$649 ⁹⁵	699 ⁹⁵
DDS-1 Non-Compression Mechanism				
APS HyperDAT®	8GB		849 ⁹⁵	899 ⁹⁵
DDS-2 Compression Mechanism				
APS HyperDAT® Pro	8GB		1049 ⁹⁵	1099 ⁹⁵
DDS-2 High-Speed Mechanism				

APS MO DRIVES

Model	Capacity/Features	Awards	SR2000
APS 230MB MO	4500 rpm drive/230MB		\$449 ⁹⁵
APS 2.6GB MO	4MB cache/2.6GB		1799 ⁹⁵

APS CD-R

- ✓ Uses CD media with 100-year shelf life
- ✓ Random access gives you fast retrieval
- ✓ TOAST CD-ROM Pro software — **FREE**
- ✓ 1-year warranty



\$899⁹⁵

At the lowest price ever for 2x CD-R technology, the APS CD-R is a fantastic value for authoring, mastering or backing up to CDs. CD-R media costs less than 2¢ per MB and has an estimated 100-year shelf life. The APS CD-R has a giant 1MB cache buffer and supports all popular CD formats specified in the Orange Book Part II. The APS CD-R comes with a FREE copy of the award-winning TOAST CD-ROM Pro recording software.

APS DLT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Full-Height
APS DLT30	30GB		\$3499 ⁹⁵
Digital Linear Tape Mechanism			
APS DLT40	40GB		5499 ⁹⁵
Digital Linear Tape Mechanism			
APS DLT4500	200GB		9999 ⁹⁵
Digital Linear Tape Loader			

All APS tape drives include Retrospect® by Dantz®

APS MEDIA SALE

3M	SALE PRICE	maxell	SALE PRICE
106148 2.6GB MO CART.	\$99.95	DLT III CARTRIDGE	\$39.95
105202 PD 650 CART.	49.95	DLT IV CARTRIDGE	99.95
1017-650 74MIN. CD-R MEDIA	9.95		
		SONY	SALE PRICE
		106151 3-PK 128MB MO	\$59.95
		106152 3-PK 230MB MO	79.95
		60M DAT	\$5.95
		90M DAT	9.95
		120M DAT	24.95



These products are performance-matched for optimal performance in the PowerPC environment.

*Available only in full-height case



APS TECHNOLOGIES

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7 days a week

JUST **\$229⁹⁵**

APS Q 1080

- ✓ Well suited for home and office use
- ✓ Great for AV and non-AV applications
- ✓ 3.93MB/sec. sust. read, 4.27MB/sec. sust. write
- ✓ PRML technology delivers more storage to powerful CPUs & applications

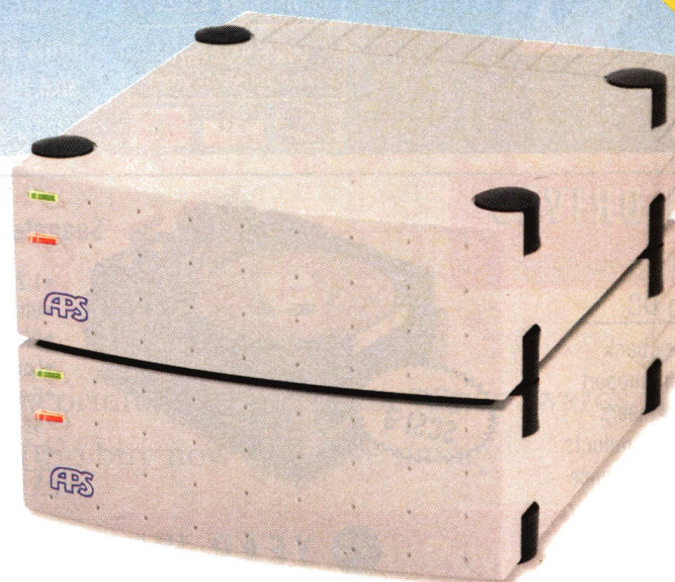
While Quantities Last

Internal configuration

Quantum



MacWEEK



For an incredible value in 1GB drives, look no further than the APS Q 1080. It is backed by a 3-year warranty and supports a 500,000 hour MTBF. If you're ready to take a step forward in drive capacity and performance, the APS Q 1080 makes that step an easy one to take.

7200 RPM PERFORMANCE, 5400 RPM PRICE

APS MS 2000

JUST **\$469⁹⁵**

- ✓ 7.31MB/sec. sust. write, 4.54MB/sec. sust. read
- ✓ 5400 rpm mechanism
- ✓ Performs like a 7200 rpm drive
- ✓ 5-year warranty



Internal configuration

MICROPOLIS



This incredible drive has the performance you'd expect from a 7200 rpm mechanism but with a 5400 rpm drive's price - and reliability! The APS MS 2000 formats to 2047MB, delivers sustained reads at up to 4.54MB/sec. and sustained writes at up to 7.31MB/sec, has an average access time of 20 ms and average seek of 9.6 ms. It has a 5-year warranty and is rated at 650,000 MTBF.

4GB OF STORAGE FOR ONLY

APS Q 4.0

JUST **\$899⁹⁵**

- ✓ Embedded servo eliminates thermal recalibration
- ✓ 7200 rpm mechanism delivers high transfer rates
- ✓ 2MB cache buffer boosts performance
- ✓ 5-year warranty



Internal configuration

Quantum



MacWEEK



Using an embedded servo as well as a high-performance 7200 rpm mechanism, the APS Q 4.0 is equally at home with AV and non-AV applications. It is based on the Quantum Atlas XP 34300 mechanism with a 4300MB formatted capacity. The drive employs a huge 2048KB cache buffer and a unique cache-management algorithm to push data transfer rates as high as 10MB per second.

APS SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS Q 840	811MB Quantum 840 Trailblazer 4500 rpm	LABS ★★★★	\$189 ⁹⁵	\$259 ⁹⁵
APS Q 1080*	1042MB Quantum 1080 Fireball 5400 rpm	MacWeek LABS ★★★★	229 ⁹⁵	289 ⁹⁵
APS Q 1280	1222MB Quantum Fireball II 1280 5400 rpm	LABS ★★★★	269 ⁹⁵	369 ⁹⁵
APS I 2160	2063MB IBM Ultrastar ES 5400 rpm	LABS ★★★★	479 ⁹⁵	579 ⁹⁵
APS MS 2000	2047MB Micropolis 4421 5400 rpm	LABS ★★★★	469 ⁹⁵	569 ⁹⁵
APS Q 2210*	2047MB Quantum Capella 5400 rpm	LABS ★★★★	599 ⁹⁵	699 ⁹⁵
APS ST 4200	4094MB Seagate ST 15230N Hawk 5400 rpm	LABS ★★★★	889 ⁹⁵	989 ⁹⁵

*While supplies last

APS IDE DRIVES FOR MACINTOSH

Model	Capacity/Features	Internal
APS Q 1280A	1222MB Quantum Fireball II 1280 5400 rpm (Fast ATA-2)	\$229 ⁹⁵
APS ST 2140A	2167MB Seagate Medalist ST32140A 5400 rpm (Fast ATA-2)	349 ⁹⁵

To receive an automated fax listing of all APS documents, call 800-374-5802 from any touch-tone telephone. Then call 816-920-4150 from a fax machine with a handset or fax modem and follow the instructions.

APS HIGH-PERFORMANCE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0	1955MB Micropolis 4221 7200 rpm	LABS ★★★★	\$549 ⁹⁵	\$649 ⁹⁵
APS MS 2.0av	1955MB Micropolis 4221AV 7200 rpm	LABS ★★★★	649 ⁹⁵	749 ⁹⁵
APS Q 2.0	2050MB Quantum Atlas XP32150 7200 rpm	LABS ★★★★	699 ⁹⁵	799 ⁹⁵
APS ST 2.0	2047MB Seagate ST 32550N 7200 rpm	LABS ★★★★	749 ⁹⁵	849 ⁹⁵
APS MS 4.0	4064MB Micropolis 3243 7200 rpm	LABS ★★★★	899 ⁹⁵	999 ⁹⁵
APS Q 4.0	4101MB Quantum Atlas XP34300 7200 rpm	LABS ★★★★	899 ⁹⁵	999 ⁹⁵
APS MS 4.0av	4064MB Micropolis 3243AV 7200 rpm	LABS ★★★★	999 ⁹⁵	1099 ⁹⁵
APS ST 4.0	4094MB Seagate ST 15150N 7200 rpm	MacWeek LABS ★★★★	1099 ⁹⁵	1199 ⁹⁵
APS MS 9.0	8669MB Micropolis 1991 5400 rpm	LABS ★★★★	1899 ⁹⁵	2099 ⁹⁵ *
APS MS 9.0av	8669MB Micropolis 1991AV 5400 rpm	LABS ★★★★	1999 ⁹⁵	2199 ⁹⁵ *
APS ST 9.0	8669MB Seagate ST410800N 5400 rpm	LABS ★★★★	2099 ⁹⁵	2299 ⁹⁵ *

* 30-day money-back guarantee on all APS brand products. Your risk is the cost of shipping.
• Drive has Drive Repair or Replacement Warranty. APS will, at its discretion, replace or repair product found to be defective according to the terms of the product's warranty.
• Reduced orders subject to 20% restocking fee.
• Listed capacities are formatted.
• Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
• Internal hard drives include brackets, cables, cords and LUNs required for operation with the specified Macintosh where applicable. External SCSI 2 drives come with a premium SCSI cable, power cord and user guide.
• All hard drives from APS Technologies come preformatted with Apple's System 7.0.1 software, and APS Technologies' APS PowerTools SCSI formatter hard disk partitioner. You may need to install system software appropriate to your machine before use.
• Prices and specifications are subject to change without notice. Not responsible for typographical errors.
• Copyright © 1996 APS Technologies

APS FAST/WIDE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0W	1955MB Micropolis 4221W 7200 rpm	LABS ★★★★	\$649 ⁹⁵	\$749 ⁹⁵
APS Q 2.0W	2050MB Quantum Atlas XP32150W 7200 rpm	LABS ★★★★	799 ⁹⁵	899 ⁹⁵
APS MS 4.0W	4064MB Micropolis 3243W 7200 rpm	LABS ★★★★	999 ⁹⁵	1099 ⁹⁵
APS Q 4.0W	4101MB Quantum Atlas XP34300W 7200 rpm	LABS ★★★★	999 ⁹⁵	1099 ⁹⁵

FAST/WIDE ADAPTER CARDS

Model	External SCSI Connection	Internal
QLogic Fast!SCSI Mac PCI-W	HD 68-Pin	\$379 ⁹⁵
Adapter for Fast/Wide drives		
SiliconExpress IV	HD 68-Pin	849 ⁹⁵
For NuBus Quadras & Power Macs only. Fast/Wide adapter card.		

APS POWERBOOK DRIVES

Model	Capacity/Features	Internal
APS Q 810	778MB Quantum Europa 3800 rpm, IDE - Fast ATA-2 *	\$339 ⁹⁵
APS Q 1.08	1037MB Quantum Europa 3800 rpm, IDE - Fast ATA-2	429 ⁹⁵
APS I 1.2	1200MB IBM Travelstar DP8S-21215 4900 rpm, SCSI-2	699 ⁹⁵



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Consultants
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REF. CODE: 307021

"Direct Connections provided excellent technical support." **MacWorld July '95**
 "Direct Connections' array offered the best performance per dollar of the drives tested." **Digital Video Oct. '94**
 "Your next option is to locate...highly visible digital video suppliers like Direct Connections." **NEWMEDIA June '95**
 "This array is the one to beat." **Ken Grey** Writer for WIRED, Computer User, MovieMaker, Computer Video, and Digital Video Magazine.
 "Stick with a vendor such as Direct Connections that understands how to prepare a RAID for desktop video." **MacWorld April '95**

HARD DRIVES

Differentials available
Only from DC

- 30day money back
- Toll free tech support
- In-house engineers
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- Award winning service
- \$5 million in inventory
- 9 Years in business



Ultra
SCSI 3

Seagate Hawk 2XL

- 1.2GB
- Ultra SCSI 3
- PRML
- Low profile
- Embedded Servo
- 3 yr warranty

• \$399

5 YEAR WARRANTY

BRAND/MODEL	CAPACITY	ACCESS	RPM	INTERNAL	EXTERNAL
HITACHI 2.5" IDE***	810MB	14MS	5400	\$ 339	
HITACHI 2.5" IDE***	1.0GIG	14MS	5400	\$ 425	
Conner CFP1080	1.2GIG LP	11MS	5400	\$ 295	\$ 365
Seagate ST51080N ***	1.2GIG LP	12.5MS	5400	\$ 290	\$ 360
Seagate Hawk 2XL***	1.2GIG LP	9MS	5400	\$ 399	\$ 469
Seagate 32105N	2.1GIG LP	9MS	5400	\$ 550	\$ 620
Conner CFP2107S	2.1GIG LP	8MS	7200	\$ 759	\$ 829
Seagate 32155N	2.1GIG Ultra SCSI	9MS	5400	\$ 599	\$ 669
Quantum Capella	2.2GIG MR	8.6MS	5400	\$ 525	\$ 595
Quantum Atlas	2.1GIG LP	8MS	7200	\$ 695	\$ 765
Seagate Barracuda 2	2.5GIG LP	8MS	7200	\$ 715	\$ 785
Seagate Barracuda 2W	2.5GIG LP	8MS	7200	\$ 775	\$ 855
Conner CFP2107W	2.5GIG LP	8MS	7200	\$ 795	\$ 895
Fujitsu M2934S	4.2GIG MR	8MS	7200	\$ 1075	\$ 1145
Fujitsu M2934Wide	4.2GIG MR	8MS	7200	\$ 975	\$ 1045
Seagate Barracuda 4	4.1GIG	8MS	7200	\$ 1135	\$ 1205
Seagate Barracuda 4W	4.1GIG	8MS	7200	\$ 1255	\$ 1325
Seagate Hawk4	4.3GIG	9MS	5400	\$ 899	\$ 999
Conner CFP4207S	4.2GIG	9MS	7200	\$ 999	\$ 1069
Conner CFP4207wide	4.2GIG	9MS	7200	\$ 1099	\$ 1199
Quantum Atlas	4.3GIG	8.6MS	7200	\$ 999	\$ 1069
Seagate Elite 9	9.0GIG	11MS	5400	\$ 2095	\$ 2195
Seagate Elite 9W	9.0GIG	11MS	5400	\$ 2295	\$ 2395

CD RECORDERS/PLAYERS

Ricoh 2 speed recorder / 4 speed player
RS1420

\$799



Includes Free software

Yamaha 4 speed Recorder / 4 Player	External	\$ 1299
Yamaha 2 speed Recorder / 4 speed Player	External	\$ 849
Yamaha 2x4 Recorder with built in hard drive	External	\$ 1329
Philips 2x4 Recorder	External	\$ 825
Pioneer 4 speed 6-Disc CD-ROM Changer	External	\$ 325
Toshiba 3701 6 speed CD Player	External	\$ 370
Pioneer 4 speed CD Player	External	\$ 255
Panasonic 4x CD/650MB Optical	External	\$ 499
150 Slot Jukebox with 4 players, all platforms	External	\$ 15900
150 Slot Jukebox w/ CD Recording, all platforms	External	\$ 17500
CD Duplicator. Just hit the button, walk away.	External	\$ 5999

CD Network Archiving, Libraries, and Recording. All Platforms.

RAID SYSTEMS

FAST DESKTOP OR SERVER

"Stick with a vendor such as Direct Connections that understands how to prepare a RAID for desktop video." **MacWorld April '95**



- 28mb/sec sustained sequential Writes.

Tested with MacBench on PowerMac 9500.

126IG with 2 PCI accelerator cards **\$ 7799**

From Hardware RAIDS to Software RAIDS, we'll show you how to configure the best system to meet your needs.

External, Remus software, and cabling

- 4 GIG Fast and Wide Raid **\$ 2199**
- 8 GIG Fast and Wide Raid **\$ 2799**
- 16 GIG Fast and Wide RAID **\$ 5870**
- 28 GIG Fast and Wide RAID **\$ 9499**
- 40 GIG Fast and Wide RAID **\$ 15599**

Atto Silicon Express IV	\$ 835
Atto Express PCI MC	\$ 765
Atto Express PCI SC	\$ 345
Adaptec AHA-2940UW	\$ 245
SCSI Expander	\$1345

MEDIA 100

TARGA 2000

radius

OPTICAL DRIVES

2.6GIG Sony Optical for \$1959
external including all cabling,
and software!!



\$1959

1 YEAR WARRANTY

CAPACITY	MODEL	EXTERNAL
230MB	Fujitsu	\$ 499
1.3GB	Sony 4MB cache	\$ 1695
2.6GB	Hitachi	\$ 1895
2.6GB	Sony	\$ 1959
26GB	Sony Jukebox	\$ 4695
52GB	Sony Jukebox	\$ 6295

TAPE BACK-UP

We are the tape-backup Experts

2 YEAR WARRANTY

With 2.5MB/sec sustained transfer, the DLT2000XT is perfect for digital video or pre-press with large data files.

\$3299



30GIG

All systems include cabling,
and Retrospect software.

CAPACITY	MODEL	MEDIA	INTERNAL	EXTERNAL
-4GIG	Tandberg Panther	1/4"	\$ 469	\$ 539
-8GIG	Sony 7000 DDS-2*	4MM	\$ 1199	\$ 1299
-14GIG	Exabyte 8505XL	8MM	\$ 2065	\$ 2125
-14GIG	Exabyte 8700	8MM		\$ 1575
-16GIG	DC 1600	4MM		\$ 999
-30GIG	DLT2000XT	1/2"		\$ 3299
-40GIG	DLT4000	1/2"		\$ 4999
-140GIG	Exabyte-10h Library	8MM		\$ 4999
-200GIG	Spectra Logic 4000	4MM		\$ 8599
-200GIG	DLT4500 Loader	1/2"		\$ 8999

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MacUser
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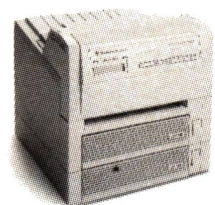


microLaser PowerPro High Performance Printing

- 12 pages per minute
- True 600 x 600 dpi
- 500-sheet paper capacity
- Mac, Windows & DOS ready
- PS Level 2 & PCL™5 emulation

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CLUBMAC HARD DRIVES

Quantum



12ms Access Time
Internal Fireball C104 0001

FIREBALL 1280MB

Capacity	Model	Part No.	Internal	Part No.	External
850MB	Trailblazer 14ms	C104 0002	\$189	C104 0052	\$249
1080MB	Fireball 12ms	C104 0000	\$229	C104 0050	\$289
1280MB	Fireball 12ms	C104 0001	\$269	C104 0051	\$329

TRAILBLAZER 850MB

14ms Access Time
Internal TrailBlazer C104 0002

\$189



BEST BUY

\$899

ATLAS 4.3GB

7200 RPM
1024K CACHE
Internal Atlas C104 0005



Capacity	Model	Part No.	Internal	Part No.	External
2170MB	Saturn 8.5ms	C104 0011	\$479	C104 0061	\$539
2150MB	Atlas 8ms	C104 0004	\$689	C104 0054	\$749
4280MB	Atlas 8ms	C104 0005	\$899	C104 0055	\$959

Seagate



Seagate
5 YEAR
Warranty

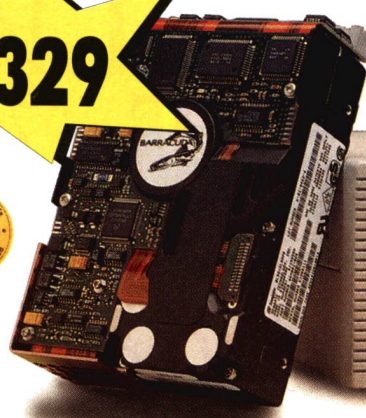
3.5" HALF HEIGHT & LOW PROFILE (LP)

Formatted Capacity	Model	Part No.	Internal	Part No.	External
1.0GB	Medalist 51080N	C104 0302	\$269	C104 0352	\$329
2.5GB	Barracuda 2LP 32550N	C104 0300	\$729	C104 0350	\$789
4.3GB	Barracuda 4 15150N	C104 0301	\$1159	C104 0351	\$1219
5.25" FULL HEIGHT					
9.1GB	Elite-9 410800N	C104 0305	\$1999	C104 0355	\$2099

CLUBMAC FAST & WIDE DRIVES

C104 0451

\$1329



BARRACUDA 4 4.3GB

Seagate
5 YEAR
Warranty

Seagate



2.1GB	Barracuda 2LP ST32150W	C104 0400	\$799	C104 0450	\$899
4.3GB	Barracuda 4 ST15150W	C104 0401	\$1229	C104 0451	\$1329
9.1GB	ELITE 9 ST410800W	C104 0402	\$2099	C104 0452	\$2219

Quantum

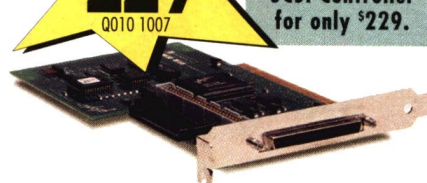


2150MB	Atlas XP32150SW	C104 0103	\$749	C104 0152	\$849
4280MB	Atlas XP34300SW	C104 0102	\$999	C104 0153	\$1099



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Buy any Fast and Wide Drive and get a QLogic Fast and Wide PCI SCSI Controller for only \$229.

\$229



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\$389

F094 1033	SCSI JackHammer PCI	\$389
F094 1002	SCSI JackHammer NuBus	\$459

CLUBMAC IDE DRIVES

Quantum

2.5" HEIGHT POWERBOOK DRIVES

Formatted Capacity	Model	Part No.	Internal
810MB	Europa IDE*	C104 0007	\$279
1080MB	Europa IDE*	C104 0008	\$379

3.5" HEIGHT DRIVES

Formatted Capacity	Model	Part No.	Internal
1280MB	Fireball IDE	C104 0012	\$229



EUROPA 810MB

*Compatible with PowerBook 150 and 5300 series only.

CD RECORDABLE DRIVES

YAMAHA 4X CD Recorder

0024 1001

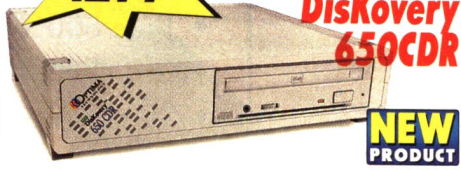
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Diskovery
650CDR



Y010 1002	Yamaha 4X CD Recorder w/Toast CD Mastering software	\$1499
0024 1001	Optima Diskovery 650CDR2X CD Recorder	\$1299
P074 1009	RCD-5040 2X Recordable CD System 2X Write/4X Read	\$1249
M274 1002	PlayWrite 2X 2000 CDR w/Gear Multi-Platform Multimedia Software	\$1149

CLUBMAC CD-ROM DRIVES

\$169

C104 1700

Features:
600KB/sec data transfer
190ms avg access time
Caddy-less design



ClubMac® ClubMac® 4.4X

C104 1600	ClubMac Six-Speed CD-ROM Drive	140ms	900k/sec	\$299
C104 1700	ClubMac 4.4X-Speed CD-ROM Drive	140ms	600k/sec	\$169
C104 1400	ClubMac Classic 2X CD-ROM Drive	250ms	300k/sec	\$79

NEC

Access time	Trans Rate	
150ms	900k/sec	\$479
350ms	600k/sec	\$339
240ms	500k/sec	\$349

N024 1062	MultiSpin 6Xe CD-ROM Reader	150ms	900k/sec	\$479
N024 1070	MultiSpin 4Xc 7 Disc Changer	350ms	600k/sec	\$339
N024 1011	MultiSpin 3Xp plus Portable CD-ROM	240ms	500k/sec	\$349

NEC

\$339

N024 1070

MultiSpin 4Xc
7 Disc
Changer
Load 7 Discs at
a time!



N024 1070	NEC MultiSpin 4Xc 7 Disc Changer	\$339
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ClubMac 200 MB SyQuest® Drive



C104 1801 ClubMac 200MB 5.25" Removable \$299*

*With purchase of 200MB cartridge.

NEW LOW PRICES ON GENUINE SyQuest Cartridges



SyQuest
5 YEAR
Warranty

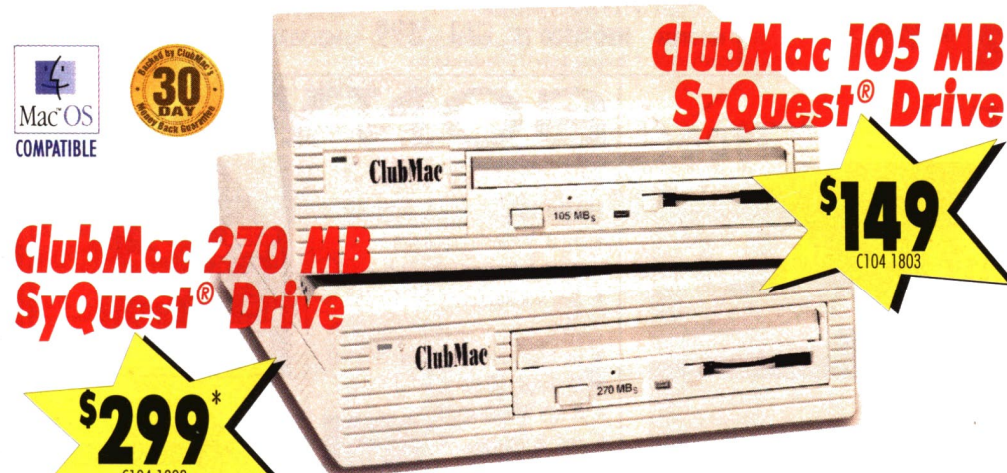
FEATURING



SyQuest
REMOVABLE
TECHNOLOGY

SyQuest Media

Part Number	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	\$40ea	\$39 ⁵⁰ ea	\$39ea
S198 1011	88MB	\$44ea	\$43 ⁵⁰ ea	\$43ea
S198 1012	200MB	\$69ea	\$68ea	\$67ea
S198 1013	105MB	\$35ea	\$34 ⁵⁰ ea	\$34ea
S198 1014	270MB	\$57ea	\$56ea	\$55ea
S198 2010	EZ135MB	\$19ea	\$18 ⁵⁰ ea	\$18ea



C104 1803 ClubMac 105MB 3.5" Removable..... \$149

C104 1802 ClubMac 270MB 3.5" Removable..... \$299*

ClubMac 270 MB SyQuest® Drive



*With purchase of 270MB cartridge.

SyQuest® EZ135 Drive

EZ Drive™

Includes One Free Cartridge



S198 2001 SyQuest EZ135 135MB 3.5" Removable..... \$199

* Drive includes one cartridge, a mail-in coupon for 2nd cartridge is included. Offer ends 7/31/96.

Zip Cartridge (100MB)

I040 1006	1 Pack	\$19 ⁹⁹
I040 1011	3 Pack	\$49 ⁹⁹
I040 1010	10 Pack	\$149 ⁹⁹

Zip Drive

Includes One Free Cartridge



I044 1010

Zip Drive with One 100MB Cartridge.....

\$199⁹⁹

New ClubMac Catalog is now Available!
Call 800-258-2622.



General Sales.....	24 Hours a Day, 7 Days a Week	(800) 258-2622
Inquiries/International Sales.....	24 Hours, 7 Days a Week	(714) 768-8130
Corporate/Education Sales.....	M - F 5am - 5pm PST	(800) 258-2621
Customer Service.....	M - F 7am - 5pm PST	(800) 551-6398
Technical Support.....	M - F 7am - 5pm PST	(800) 854-6227
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- ClubMac hard drives include all cables, cords, and brackets necessary for use with the Macintosh you specify. ClubMac formats all hard drives and installs Apple System 7.1 software, Charismatic Anubis Driver, and PowerMerge LE.
- External drives include a Double Shielded, twisted pair 25-50 SCSI cable.
- ClubMac honors all original equipment manufacturers warranties. ClubMac will repair or replace drives at its discretion. Drives returned within first 30 days of purchase are replaced with a new unit.
- All ClubMac hard drives include a 30 day money back guarantee. Your risk is the cost of shipping.



NO SURCHARGE!

Source Code 65216

ClubMac®
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7 Hammond, Irvine CA 92718

CLUBMAC TAPE STORAGE

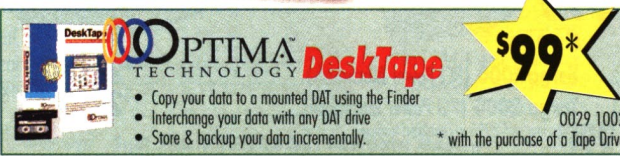
ClubMac® Tape Back-Up Drives

C104 0900	ClubMac 2-4GB SCSI QIC MiniCartridge Drive (Cartridge not included)	\$489
C104 1300	ClubMac 2.0GB ThunderDAT Drive	\$749
C104 1301	ClubMac 4-8GB DDS-2 DAT Drive	\$829
C104 1200	ClubMac 4-8GB DDS-2 SuperDAT Drive	\$1059
C104 1302	ClubMac 4-8GB Performance DAT Drive	\$1079
C104 0200	ClubMac 40GB DLT Subsystem DLT 4000	\$4569
S100 1043	Sony QW3080XLF QIC/WIDE 2-4GB Cartridge	\$29
V010 1018	Verbatim 90M 4mm DAT Cartridge 2-4GB	\$9
S104 1008	Sony 120M 4mm DAT Cartridge 4-8GB	\$29
Q034 1022	1/2 inch media for DLT 4000	\$99

DDS-2 DAT Drive



Includes One Free DAT Tape



- Copy your data to a mounted DAT using the Finder
- Interchange your data with any DAT drive
- Store & backup your data incrementally.

* with the purchase of a Tape Drive

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GENESIS SYSTEMS

MONITORS

DAYSTAR
DIGITAL

Genesis MP528

Multi-Processing power with FOUR 132MHz PowerPC processors

- Six PCI expansion slots
- 4X CD-ROM Drive, ADB Mouse, and Apple Floppy drive
- Ethernet, 10Base-T & AUI connector
- 512k Cache
- Multi-processor Plug-ins for: Adobe Photoshop, After Effects, Strata StudioPro Blitz & Kodak KCMS/Photo CD/Quick-time

NEW PRODUCT

\$8845*
D042 1005

132MHz

*Monitor & keyboard not included.

NEC
14" C400 Monitor
NEW PRODUCT

\$299
N026 102

- 14" AntiStatic, Non-glare CRT
- .28mm dot pitch
- Max Resolution: 832x624

N026 1029 **14" C400 Monitor** **\$299**
13.2" Viewable Image Size

N026 1033 **15" C500 Monitor** **\$399**
13.8 Viewable Image Size

N026 1031 **15" MultiSync XV15+** **\$469**
13.8 Viewable Image Size

N026 1036 **NEC M500 15"** **\$599**
Chromaclear Monitor-13.8 Viewable Image Size

17" MultiSync XV17+

\$799

BEST BUY

N026 1032

FEATURES

- 17" Flat Square Technology CRT
- 15.6" Viewable Image Size
- MAC Resolution up to 1024 x 768 NI
- 0.28 mm dot pitch
- On-Screen Manager

N026 1032 **17" MultiSync XV17+** **\$799**

N026 1007 **17" NEC XE17** **\$999**

N026 1009 **17" NEC XP17** **\$1049**

N026 1010 **21" MultiSync XE21** **\$1719**
19.8 Viewable Image Size

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PrecisionView™ 21 Display

Quality, High Resolution Display for Creative Professionals

- 21" DiamondTron Color Tube w/aperture grill
- .30mm Dot Pitch
- Energy Star Compliant
- Capable of 1600 x 1200 resolution
- On Screen display of digital controls

R016 1032 **PrecisionView™ 21** **\$2299**

R016 1031 **PressView 17SR** **\$1999**

ViewSonic®

17GA PerfectSound Multimedia Monitor

FEATURES

- HiFi Speakers built in
- 17" (15.7" Viewable Image Size)
- Max Res: 1280 x 1024
- PC and Mac compatible

BUILT-IN STEREO SPEAKERS

V056 1016 **ViewSonic 17GA Monitor** **\$799**

V056 1020 **ViewSonic PT770 Monitor** **\$899**

SONY

Multiscan 17SFII

FEATURES

- 16.0" Viewable image size
- .25 mm Aperture Grille Pitch
- Max Mac Resolution: 1024 x 768™ 75hz
- On screen display of screen controls
- Macintosh Adapter included
- 3 Year Warranty parts and 2 Year CRT

S106 1018 **Sony Multiscan 17SFII** **\$915**

S106 1017 **Sony Multiscan 15SFII** **\$515**

VIDEO CARDS

radius
Thunder 30 PCI Cards

- 30-bit color with built-in photoshop Acceleration
- Real-time CMYK-to-RGB display
- On-the-fly resolution and bit-depth switching

R013 1070 **Thunder 30/1152 PCI Card** **\$799**

R013 1073 **ThunderColor 30/1600 PCI Card** **\$1999**
Resolution up to 1600 x 1200

\$289.99
NEW LOW PRICE
ATI
Technologies, Inc.
Designed for Macintosh computers with PCI

A143 1010 **ATI XCLAIM GA 2MB PCI video card** **\$289.99**

A143 1009 **ATI XCLAIM GA 4MB PCI video card** **\$439.99**

XCLAIM GA

ATI's renowned mach64 graphics acceleration chip gives the XCLAIM GA its exceptional abilities. It features 2MB or 4MB of VRAM, & displays up to 16.7 million accelerated colors at 1152x870.

A143 1010

DIGITAL VIDEO

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VideoVision Studio 2.5.1

Broadcast-Quality Video

VideoVision studio can deliver broadcastable quality video output in NTSC and PAL timing.

16-bit Audio

VideoVision Studio can now simultaneously capture video with 16-bit, 44.1 KHz stereo sound using the on-board audio of the Power Macintosh.

R013 1018 **VideoVision Studio 2.5.1** **\$2399**

Radius Telecast Upgrade

Telecast combines component video, professional audio with an open architecture to give video professionals hardware and software choices. Telecast reinvents the entire post production process providing options for producing quality programming in a variety of formats.

R013 1077 **Telecast Upgrade** **\$3459**

VideoVision

\$2399

NOW AVAILABLE!
\$3459

9 NUMBER NINE
VISUAL TECHNOLOGY

Imagine 128

- 128-bit graphics engine
- 128-bit internal data path
- 128-bit memory bus
- Exclusive WideBus™ design means drawing pathways are a full 128-bits wide from processor to high speed VRAM

N080 1002 **Imagine 128 8MB Accelerator** **\$1169**

N080 1003 **Imagine 128 4MB Accelerator** **\$729**

THE 128-BIT ACCELERATOR FOR PURE GRAPHICS POWER
IMAGINE 128
DESIGNED FOR MACINTOSH COMPUTERS WITH PCI

TARGA 1000

T043 1003 **Targa 1000 (PCI Power Macintosh)** **\$2699**

T043 1001 **Targa 2000 (PCI Power Macintosh)** **\$2995***
(* as low as \$2995 w/qualified trade-in)

TRUEVISION® Targa 1000
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Transform Your Desktop Computer into a Powerful Digital Video Editing System.

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16MB 4x32 SIMM

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ALL MEMORY AVAILABLE! CALL FOR BEST PRICE.

ACCELERATORS

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DIGITAL

Mac Ili, Ilii, Ilix, Performa 600

Runs your current software up to twice as fast, and runs PowerPC applications 7 to 11 times faster.

100MHz PowerPro 601

\$1199
D040 1043

D040 1018 **40/Mhz Turbo 040 with 128K cache** **\$599**

D040 1043 **100Mhz PowerPro 601 with 1MB cache** **\$1199**

D040 1048 **100Mhz Turbo 601** **\$1139**

MicroMac Technology

Carrera040

MAC Ili, Ilii, Ilix, or Ili
Just plug in the Carrera040 accelerator and instantly get blazing performance from your existing Mac

M264 1003 **40/80Mhz Carrera 040 with FPU** **\$599**

66MHz Turbo 601

\$499
D040 1039

Quadra and Centris (610, 650, 700, 800, 900, and 950 series)

- Transforms your Mac into a top of the line PowerPC workstation
- Works with your current memory
- 64-bit data path increases performance
- Requires System 7.5

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SCANNERS

Reli 4830 Mac/TE Color Scanner

\$899 **BEST BUY** **30 Bit Transparency Adapter Included!**



R060 1004	Reli4830 MAC/TE Color Scanner	\$899
R060 1016	Relisys Scorpio Color Scanner 300 x 1200 dpi	\$399
R060 1017	Relisys Taurus Color Scanner 600 x 1200 dpi	\$699

UMAX Powerlook II

The Magic of Color **NEW LOW PRICE** **\$2495**



FEATURES

- 36-bit color scanning
- 600 x 1200 dpi
- 3.3 Dynamic Range
- Includes Transparency Adapter
- Package includes: Adobe Photoshop, KAI's PowerTools SE, PowerPhotos CD, WordLinx OCR, Pixar Typestry, & Pixar 128CD

U010 1052 **PowerLook II** 36-bit color scanning, 600 x 1200 dpi **\$2495**

U010 1055 **Vista-S12 LE** **\$799**

VISIONEER PaperPort Vx

\$279



FEATURES

- 6 second typical scan time
- 400 dpi resolution
- 256 Gray-scale imaging
- Scan Documents up to 30" long
- Includes OmniPage Lite, CardScan SE, PictureWorks Copier

V029 1008 **PaperPort Vx for Macintosh** **\$279**

EPSON ES1200C Pro

\$1179 **WARRANTY**



FEATURES

- 600 dpi optical resolution,
- 30-bit color scanning
- Pro Package includes: Adobe Photoshop, Scantastic, KAI's PowerTools, SCSI cable

E045 1003 **Epson ES1200C Pro-MAC Color Scanner** Full Package **\$1179**

E045 1007 **Epson ES1200C LE-MAC Color Scanner** w/Scantastic **\$949**

E045 1013 **Epson ES1000C LE-MAC Color Scanner** **\$735**

Nikon ELECTRONIC IMAGING COOLSCAN II

\$1199 **NEW PRODUCT**



FEATURES

- Single-pass, 2700 dpi, 24-bit, 35mm Desktop Film Scanner
- 20 second pre-scan, 80-second final scan for 2592 x 3888 pixels
- Cool LED illumination for long life and low noise
- Intelligent hardware autocolorization, autofocus, autoexposure and autocalibration
- Nikon Scan driver software ensures ease of use
- Adobe Photoshop plug-in
- SCSI-2 interface

N045 1008 **Coolscan II** **\$1199**

MICROTEK ScanMaker III

\$1989 **WARRANTY**



FEATURES

- 600 dpi & 36-bit color scanning
- Includes Transparency Adapter
- Single pass scanning
- DCR (Dynamic Color Rendition) calibration/correction system
- Apple ColorSync compatible
- Package includes Adobe Photoshop

M150 1006 **Microtek ScanMaker III** **\$1989**

PRINTERS

EPSON Stylus Color Pro

\$499 **WARRANTY**



FEATURES

- 720 x 720 dpi photo quality on plain paper
- PostScript upgradeable
- True black laser text
- Pantone matching
- Text print speed up to 3ppm, color 1ppm

E047 1019 **Epson Stylus Color Pro** **\$499**

E047 1018 **Epson Stylus Color II** **\$299**

Epson Stylus Color Pro XL

\$1799



FEATURES

- Prints up to 12.5" x 18" full bleed Photoquality color
- 720 x 720 dpi photo quality with / technology
- Optional Adobe PostScript with Pantone Color Calibration

E047 1022 **Epson Stylus Color Pro XL** **\$1799**

HP LaserJet 5MP

\$1045 **WARRANTY**



FEATURES

- 600 x 600 dpi laser printing with HP Resolution Enhancement technology
- 120 levels of grey
- 6 ppm print speed
- 3MB RAM standard, expandable up to 35 MB w/Adobe Memory booster
- Adobe PostScript level 2 with 35 scale typefaces

H047 1030 **HP LaserJet 5MP Printer** **\$1045**

HP DeskJet 855Cxi Printer

\$499 **NEW PRODUCT**



Features

- COLOR PRINTER**
- Dual I/O for PC or Macintosh connection
- Black print speed up to 7ppm
- Color print speed up to 3ppm
- Handles plain and special papers, transparency film, and envelopes

H047 1065 **HP DeskJet 855Cxi InkJet Printer** **\$499**

AGFA Arcus II

\$1995 **WARRANTY**



FEATURES

- 600 dpi & 36-bit color scanning
- 3.0 Dynamic Range
- Includes Transparency Module
- Package includes: Adobe Photoshop, Agfa FotoLook Scanner driver software, Agfa FotoTune Color Management software

A055 1001 **AGFA Arcus II** **\$1995**

A055 1011 **AGFA StudioScan IIsi** **\$699**

ART PADS

WACOM Art Z II 6" x 8" ArtPad

\$298



Don't buy a tablet that uses batteries...get a WACOM

W010 1028 **ArtZ II 6x8** **\$298**

MODEMS

GLOBAL VILLAGE COMMUNICATION TelePort Platinum Fax/Modem

\$199 **WARRANTY**



6050 1016 **TelePort Platinum** 28.8 data, 14.4 S/R, GlobalFax, GlobalFax OCR **\$199**

6050 1019 **PowerPort Platinum Pro** Combo 10base-T Ethernet, 28.8 data, 14.4 S/R, Fax, Type II PC Card **\$499**

US Robotics 28.8 Sportster

\$195 **WARRANTY**



FEATURES

- 28.8 V.34 and 33.6 kbps
- V.32 bis at 14.4 kbps
- V.42/mnp 2-4 error control
- Macverter Fax and Data Software
- CD-ROM of Internet Access Software
- Discover the World Wide Web with your Sportster Guidebook

U020 1021 **US Robotics 28.8 Sportster for Mac** **\$195**

U020 1025 **US Robotics Sportster 28.8 w/voice** **\$259**

BEST DATA Merging Multimedia & Communications

BEST BUY **\$138**



Count on Best Data Modems for speed and affordability.

Smart One 2834FLXMAC Data/Fax Modem

B020 1001 **Best Data 2834FLXMAC** 28.8 v.34 External Fax/Modem **\$138**

B020 1003 **Best Data 2834VLXMAC** 28.8 v.34 Ext. Fax/Modem w/Voicemail **\$169**

Supra 28.8 Ext V.34

\$199 **WARRANTY**



FEATURES

- V.34 and Flash ROM technology
- Includes caller ID, Silent Answer Fax and Voice Line Sharing
- FAXcilitate fax software, MicroPhone LT data software and CompuServe Information Manager software
- 28.8 kbps data speed with maximum throughput of 115, 200 bps, 144.4 send/receive fax
- V.42bis data compression MNP 2- & 10 error correction

S140 1007 **Fast Mac V.34 28.8 bps Fax/Data Modem** **\$199**

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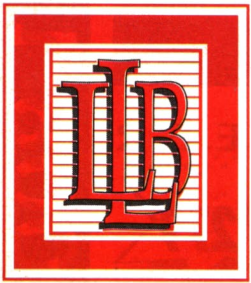
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24-Hour Fax	(714) 768-9354

WARRANTIES: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. MONEY BACK GUARANTEE: All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturers' return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. RETURNS: Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

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Source Code 65216



The LLB Company, Inc.

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International: 206.746.0229

WEB SITE: HTTP://llb.com

Fax: 206.746.5168

MEMORY

Standard 30-pin SIMMs

1MB 100/80/70NS	\$26/22/33
2MB 80/70NS	44/46
4MB 80/70NS	72/77
8MB 70NS	179
16MB 70NS	455

30-pin, 9 bit PC SIMMS

1MB 70NS	\$30
4MB 70NS	130

72-pin SIMMs

4MB 70/60NS	\$50/53
8MB 70/60NS	99/103
16MB 70/60NS	207/209
32MB 60NS	446

72-pin, 9 bit PC SIMMS

4MB 70NS/60NS EDO	\$89/75
8MB 70NS/60NS EDO	189/150
16MB 70NS/60NS EDO	300/349
32MB 70NS/60NS EDO	875/636

PB 5300 Series

8MB/12MB RAM	\$213/270
16MB/32MB RAM	400/785

PB 190 Series

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12MB/16MB 70NS	299/495
32MB 70NS	1219

PB500 Series

4MB/8MB RAM	\$133/211
16MB/32MB RAM	425/840

4MB PAL SIMMs for II, IIX

4MB 70NS	\$129
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64-pin SIMMs for IIfx

1MB 80/70NS	\$26/43
4MB 80/70NS	155/155
8MB 70NS	305
16MB 70NS	520

168-pin DIMMs

4MB 60NS	\$125
8MB 60NS	118
16MB 60NS	223
32MB 60NS	448
64MB 60NS	995

PBDUO 210/230 Series

PB DUO-4MB	\$159
PB DUO-8MB	260
PB DUO-12MB	445
PB DUO-14MB	455
PB DUO-20MB	698
PB DUO-28MB	899

**8MB 72PIN
\$99**

What type of Memory do I need?

Standard 30-Pin Simms:

Plus, SE, SE 30, Classic, Classic II, Color Classic, LC, LCII, Performa 200, Performa 400-430, Performa 600, Quadra 900/950, Mac II, IIX, ILC, ILSI, ILCI, IIfx, IIVx, IIVI.

Standard 72-Pin Simms:

Quadra 605/630, 610, 650, 700, 800/840AV, LCIII, LC475, LC630, Performa 450-560, 575 and 6115CD, PowerMac 6100, 7100, 8100, WS 80, WS60, WS 95, WS 6150 and WS 8150, 9150.

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	APPLE	850MB	339	
	1.2GB	449	2GIG	799

QUANTUM (EXTERNAL)

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Atlas 4.3 GB		1079

Rumi	200MB SyQuest w/Cart	\$479
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NEC	6XE Multi-Spin CD-ROM Drive	\$519
	4XC 7CD Changer	369

2X CD Recorder/Writer	\$1375	FWB
4X CD Recorder/Writer	1999	incorporated

SyQuest® EZ135 W/Cartridge

lomega Zip Drive	\$199
Jaz 1.0GB Drive Ext/Int	599/549

Pinnacle	RCD1000 w/10 Recordable CD's	\$1295
	RCD5020 Ext. CD Recorder	1265
	APEX 4.6GB Optical Drive	1589

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8mm, DL 112 Meters 2.5/5.0GB	\$7
4mm, DL 60 Meters DDS-MRS 1.3GB	7.50
4mm, DL 90 Meters DDS-MRS 2.0GB	9.50

lomega	lomega ZIP Cartridge 100MB	\$19
	- 3-pack/10 Pack	49.50/139
	lomega Jaz 1GB Cartridge/5 Pack	123/490
	lomega Jaz 540MB Cartridge/5 Pack	69/294

SyQuest®	EZ135	\$19.50
	- 5 Pack	96.25
	- 10 Pack	190.00

The Original SyQuest Cartridge

	1-4	5-9	10+
44MB 5.25"	\$40	\$39	\$38
88MB 5.25"	\$43	\$42	\$41
200MB 5.25"	\$63	\$62	\$62
270MB 3.5"	\$49	\$48	\$47
105MB 3.5"	\$55		\$54

FPU's/CoProcessors VRAM/Accelerators

FPU's/Math CoProcessors	
Centris FPU 25MHz	\$189
FPU 33MHZ DUO/P600	52
FPU Color Classic 16MHZ	44
FPU LCIII 25 MHZ/FPU LC,LCII 16 MHZ	49/49
LC575 33MHZ Math CoProc	240

VRAM/CACHE	
256K 80NS Video RAM	\$17
512K Video RAM	22
1MB Video RAM PM72/75/8500	55
2MB Video RAM PM 9500	225
256K/512K/1MB Cache Card	72/282/569
256K Cache Dimm /512K Cache Dimm	87/155
1MB Cache Dimm	269

DAYSTAR ACCELERATORS

Turbo 040 40MHZ w/cache	\$679
PowerCard 601 66mhz	649
PowerPro 601 100MHZ w/cache	1240
Turbo 601 100 MHZ w/adaptor	1175
PowerCard 601 100MHZ	959

MODEMS

GLOBAL VILLAGE

Teleport Platinum 28.8 V.34	\$205
PowerPort 1XX Platinum 28.8 V.34	339
PowerPort Platinum PC Card 28.8	349
PowerPort Platinum PRO PC Card	519

SUPRA

SUPRA Simple Internet 28.8 Ext.	\$159
SUPRA 28.8 V.34	207
SUPRA 28.8 PB FAX Modem	189
SUPRA EXPRESS 144 PLUS	99
SUPRA EXPRESS 288 External V.34	159

US ROBOTICS

28.8 Sportster V.34 Internet Bundle	\$199
Sportster14,400 Mac & Fax	119
28.8 V.34 PCMCIA Sportster	291

TDK

28.8 V.34 PCMCIA PB190/5300	\$259
Global Class 288 V.34 PCMCIA	355

Motorola

Lifestyle 28.8 V.34	\$212
Power 28.8 V.34	270
ISDN Bitsurfer PRO	369

MEGAHERTZ

Cruise Card 14.4 PCI	\$135
Cruise Card 28.8	295
Cruise Card 14.4	159

PRINTERS

APPLE	Color Stylewriter 2500	\$375
	Laserwriter 4/600	895
	Personal Laserwriter 320	809

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EPSON	STYLUS COLOR 1500 PRINTER	\$995
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SCANNERS

EPSON	1200C PRO	\$1202
VISIONEER	PaperPortVX for Mac	295
Nikon	CoolScan II External	1349
ELECTRONIC IMAGING	Super CoolScan	1999
AGFA	StudioScan IISI	935
	ARCUS II	1941
POLAROID	SPRINTSCAN	1555

UMAX

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Internal Drives

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SO 3EDM128MFB..	128MB 3.5 3-Pk Mac Format	50.00
SO 3EDM230MB..	230MB 3.5 3-Pk Optical	55.00
SO 3EDM230MFB..	230MB 3.5 3-Pk Mac Format	60.00

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SO EDM230M	230MB Mac Formatted MO Disk ..	22.00 ea
SO EDMIDAIS	600MB/512 Optical Cartridge	52.00 ea
SO EDMIDAOS	650MB/1024 Optical Cartridge	52.00 ea
SO EDM1301	1.2GB/5'12 Optical Cartridge	59.00 ea
SO EDM1300	1.3GB/1024 Optical Cartridge	59.00 ea
SO EDM2300B	2.3GB Optical Cartridge 512 B/S	86.00 ea
SO EDM2600B	2.6GB Optical Cartridge 1024 B/S ...	86.00 ea

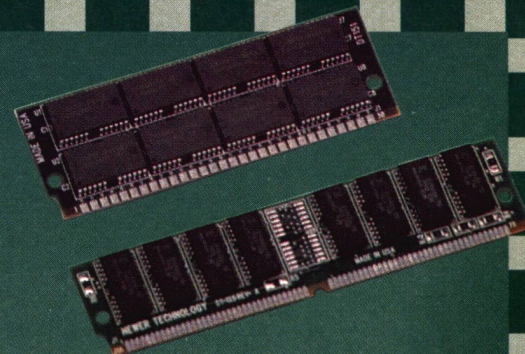
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1.0 GB	DT-1080FB	Quantum	11ms	3 yrs	\$269	\$344
1.05 GB	DT-31230	Seagate NEW LOW PRICE!	9.0 ms	5 yrs	\$380	\$455
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2.0 GB	DT-4221	Micropolis	8.0 ms	5 yrs	\$599	\$675
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4.3 GB	DT-3243AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	\$1,050	\$1,125
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9.0 GB	DT-1991AV	Micropolis NEW LOW PRICE!	12 ms	5 yrs	\$2,050	\$2,150
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Laps Color 16	Thousands	256	256
Laps Color 24	SE/30	Thousands	256
Radius Direct Color/ox	SE/30	Millions	256
SuperMac Spectrum 8	IIsi	-	256
SuperMac Spectrum 8.24	IIsi	256	256
	Millions	256	256

Video Card

Monitor (Colors)

Platform	14/15"	16/17"	19/20"	21"
Radius FPD Card	Mono	-	-	-
Radius SuperView	Mac SE	-	-	-
Radius FPD Interface	Mac SE	-	-	-
Radius 770 Interface	Mac SE	-	-	-
Radius 81LC	LC/PPDS	-	-	-
Radius 81LC	LC/PPDS	-	-	-
Radius Spectrum 8	LC/PPDS	-	-	-
Radius Color 16 for LC	LC/PPDS	-	-	-
Micro Conversions 1724	LC/PPDS	-	-	-
Laps Color 24 for LC	LC/PPDS	-	-	-
	Millions	256	256	256

Video Card

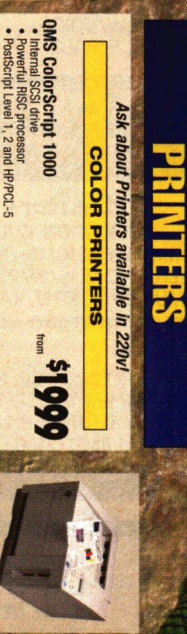
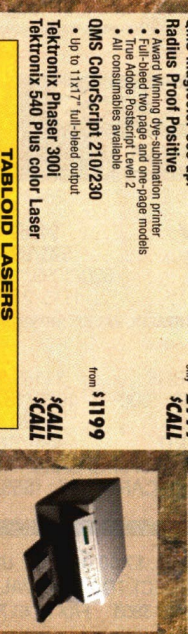
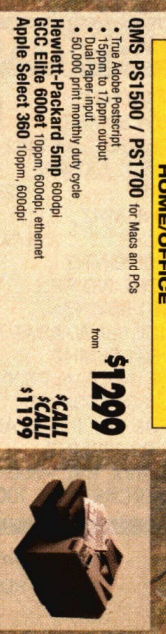
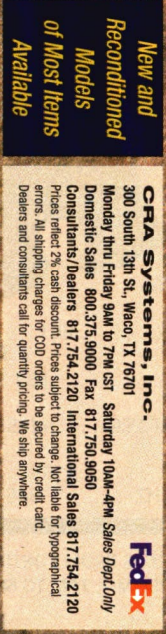
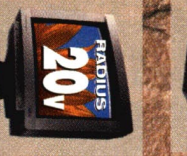
Monitor (Colors)

Platform	14/15"	16/17"	19/20"	21"
Nubus	256	256	16	-
Nubus	256	-	256	-
Nubus	-	-	-	-
Nubus	Millions	-	-	-
Nubus	-	-	256	-
Nubus	256	256	256	-
Nubus	256	256	256	-
Nubus	-	-	-	-
Nubus	Millions	Millions	Millions	Millions

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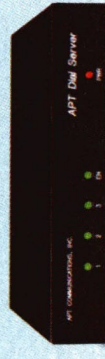
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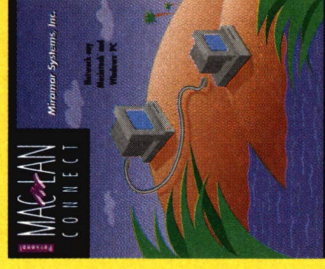
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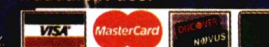
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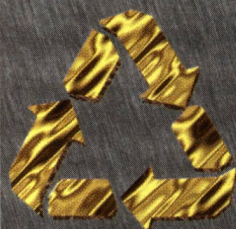
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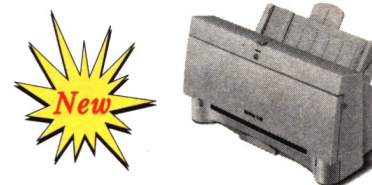
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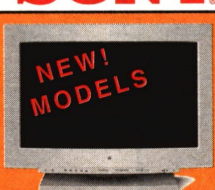
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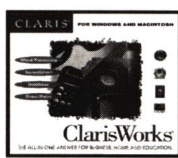
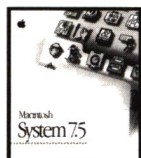
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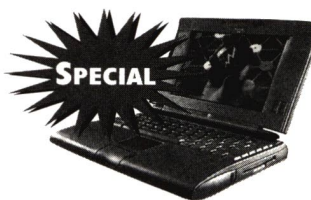
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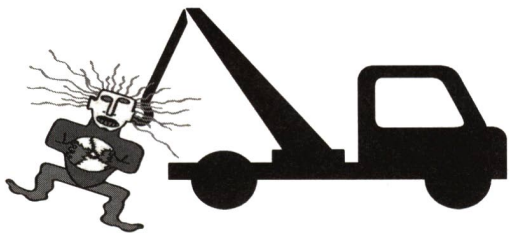
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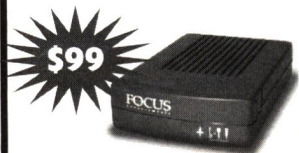
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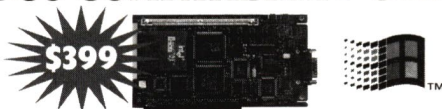


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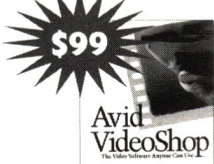
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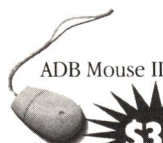
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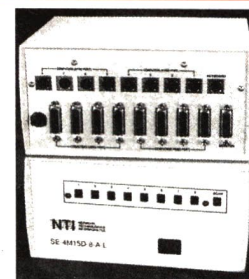
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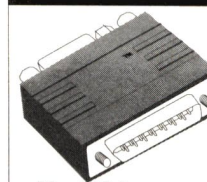


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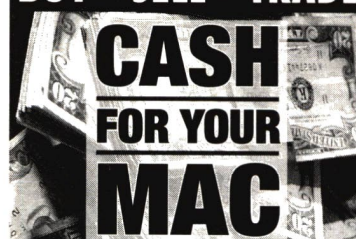


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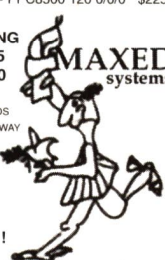
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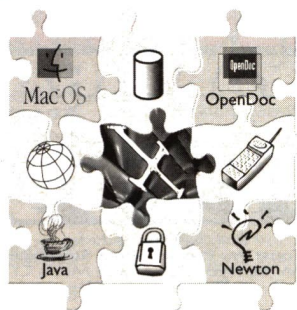
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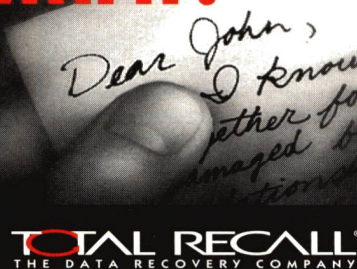
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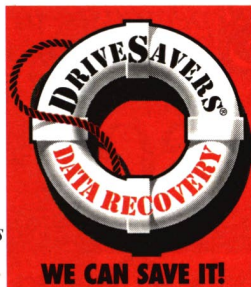
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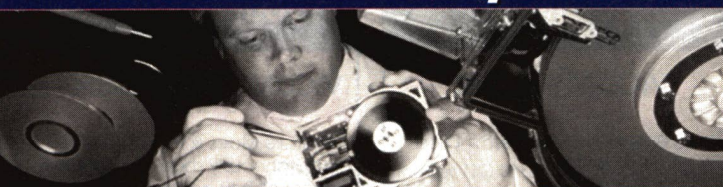
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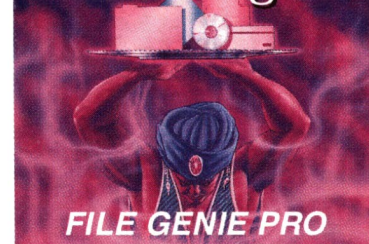
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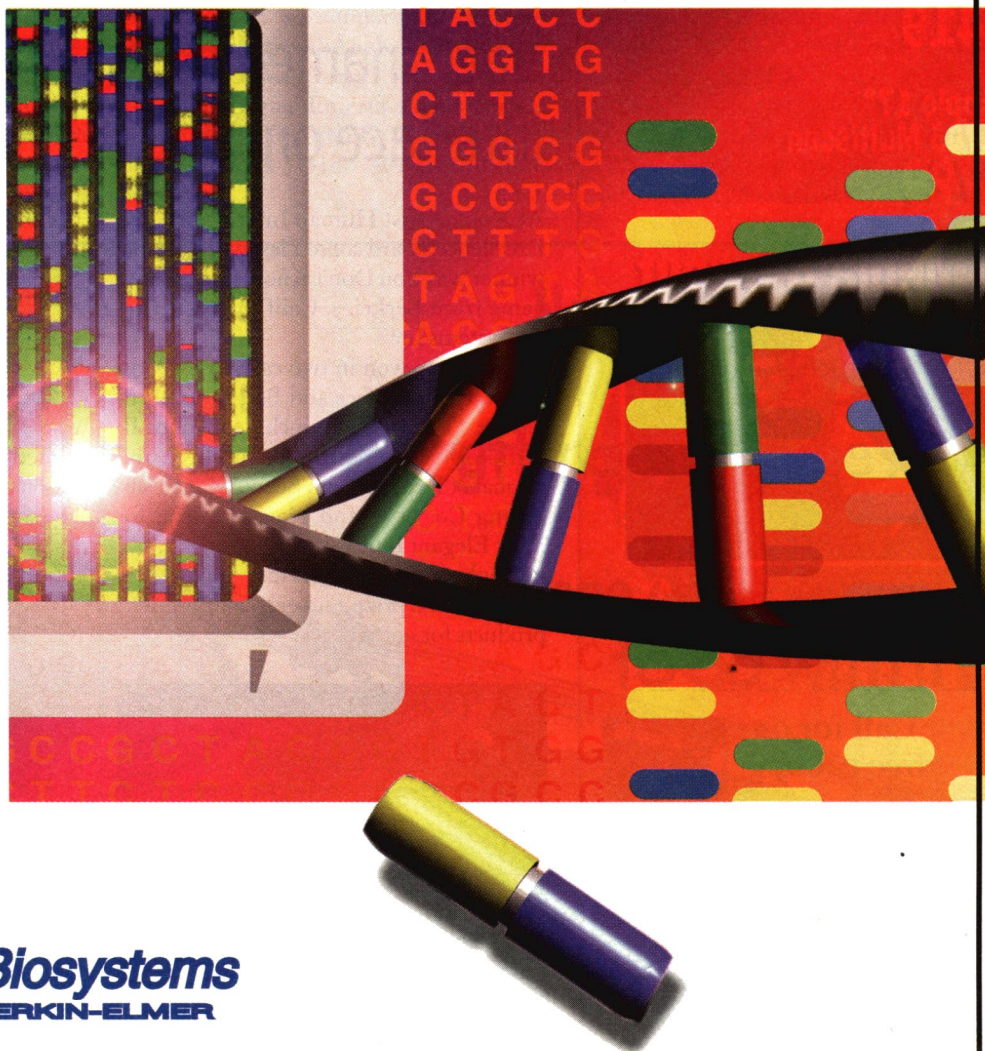
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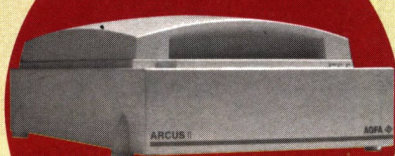
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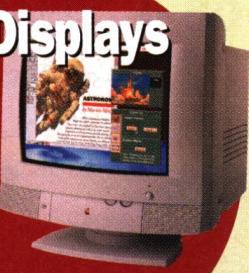
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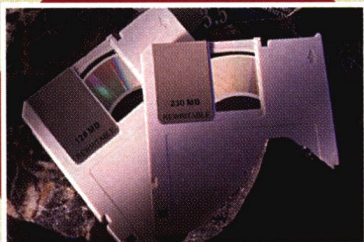
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Internet

From Page 1

Adobe Systems Inc., Netscape Communications Corp., Silicon Graphics Inc. and Sun Microsystems Inc. as Apple's key Internet collaborators.

During the strategy presentation, Marc Andreessen, chief technical officer at Mountain View, Calif.-based Netscape, announced that his company will make some functions in Netscape Navigator available as OpenDoc parts.

Apple used WWDC to release Cyberdog 1.0, its free suite of Internet-client OpenDoc parts for Power Macs, and to demonstrate new parts that will function with it. Among these were a pre-release Apple part that runs Navigator plug-ins and a Java-applet player from ResNova Software Inc. of Huntington Beach, Calif. Tesler said that Cyberdog will be bundled with several Mac models and localized for various languages, starting with Japanese this summer.

Tesler said OpenDoc and the Mac OS will integrate various forms of multimedia, grouped loosely together under the heading QuickTime Media Layer.

The layer currently contains Sun's Java, HTML, Virtual Reality Modeling Language and upcoming font technologies for the Internet (see story, Page 10).

Tesler characterized the layer as less of a technology substrate and more of an expandable collection of standards. He said Apple is working with various in-

dustry committees to have the company's own technologies approved as Internet standards and will broadly license them.

"We're going to contribute our value-added technologies to the Internet platform," Tesler said. QuickTime, QuickTime Conferencing, QuickTime VR and QuickDraw 3D will all be available on multiple client platforms and will be Internet-oriented, he said (see story, Page 12). Apple itself will create Windows versions of its graphics technologies, Tesler said, and from this point forward, all will be upgraded "virtually simultaneously" on Macs and Intel-standard PCs.

"We will work with anyone who is dedicated to providing Internet experiences on all platforms," Tesler said. The openness of Internet standards eases integration of Macs into corporations, he said, and thus benefits Apple.

To improve the server side of Apple's strategy, TCP/IP will be added to several products, including AppleShare and Apple Remote Access, later this year. Garry Hornbuckle, former Apple product-line manager of Mac OS communications and current director of technology services, said the first step in making this happen will be the release of a Power Macintosh-native Point-to-Point Protocol stack this summer.

The company also plans to bundle a Web server with all Macs; the miniserver will let users publish documents on the Web by dragging files to a desktop icon. Quarterdeck Corp. of Marina Del Rey, Calif., this week announced just such a server (see story, Page 18), but sources said Apple is building its own.

On the client side, CEO John Warnock of Mountain View-based Adobe announced during the presentation that future versions of the Apple Internet Connection Kit will include Adobe Acrobat 3.0, code-named Amber.

Tesler said that Macromedia Inc.'s Shockwave for Director and Farallon Computing Inc.'s Look@Me will be added to the kit as well.

In authoring, PowerProduction Software of Hermosa Beach, Calif., demonstrated a drag-and-drop Java coding application (see 05.06.96, Page 12), but an 11-year-old stole the show with one of Apple's future contributions to content authoring: Cocoa.

Gregory Miller from the San Carlos (Calif.) Center for Learning demonstrated the visual programming product due from Apple this fall. Originally called KidSim (see 01.22.96, Page 1), the tool will be delivered with a Navigator plug-in that will let child programmers publish their applications on the Internet.

"Cocoa lets even me become a developer, which means I'm your competition," Miller said, earning a roar of applause.

Analysts were pleased with the direction Apple is taking its Internet strategy but expressed a thirst for follow-through. "The question is, can they implement all this stuff?" said Stephan Somogyi, senior editor for Digital Media, a Seybold Publications multimedia industry newsletter based in San Francisco. □

Hornbuckle, Risser tapped

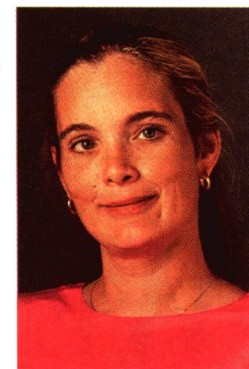
Along with its announcements of broad corporate shake-ups, Apple revealed at the Worldwide Developers Conference in San Jose, Calif., last week that it made changes to its developers support team.

Garry Hornbuckle moved from product-line manager of Mac OS communications to director of technology services for Apple's Developer Technical Services. In addition to direct support for third-party developers, Hornbuckle will oversee the Developer University educational program and DTS's technical journal, develop.

"We need to make our support mirror the business climate of developers, including marketing as well as engineering," he said. "We can't just force-feed technologies."

Earlier this month, Jane Risser became Apple vice president and treasurer. Risser's new responsibilities include management of cash, exchange and interest rates.

Risser has been with the company since 1986 and had been the director of corporate finance since 1991. □



New Apple VP Jane Risser.

Harmony

From Page 1

for the microkernel was completed can work with System 7.5.) Gable said while the update details will be worked out in the next two months, Harmony will not introduce new APIs for developers.

Gable said Harmony will not contradict Apple's new continuous-release plan for OS additions, mentioned by Apple CEO Gilbert Amelio in the WWDC keynote address. Instead, Apple will support different groups of users with each plan: Technical users can get the latest software more quickly, while others can receive an update all at once.

The release will also give Apple another chance to market the OS in the distribution channel. "Sales of the Mac OS in a cardboard box is still one of our biggest products," Gable said.

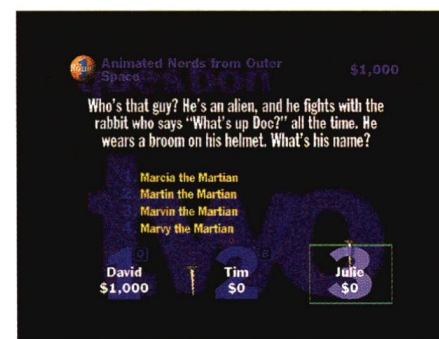
Analysts were upbeat about Harmony but said it should be released sooner to boost Apple's fourth quarter sales. It may also give third-party developers a chance to piggyback on expected promotions, analysts said. "It will help build excitement in the Mac marketplace, and developers can take advantage of that," said Chris LeTocq, director of software research for Dataquest Inc. of San Jose. While some developers will tie the release of new versions around Harmony, most independent software vendors "have their eyes on System 8," LeTocq said. □

'Jack' named best interface on Mac

At Apple's first Human Interface Design Excellence award contest last week, the big winner was You Don't Know Jack, a trivia game from Berkeley, Calif.-based Berkeley Systems Inc.

The game won in two categories, Most Innovative Interface and Best Overall Interface. Other winners included Adobe Illustrator 6.0 for Best Look and Feel; and Alphabet Express from School Zone Publishing Co. of Grand Haven, Mich., for Most Elegant Interface.

Apple said the winners may use the associated HIDE prize sticker to market their products for one year. □



Designed for multiple players, the minimalist interface for the irreverent trivia game You Don't Know Jack won two Apple Human Interface Design Excellence awards.

Natural

From Page 1

fastest — implementation of Java on any platform," he said.

Tesler added that Apple is committed to delivering the integrated VM to users this year, most likely in the interim system software update code-named Harmony (see story, Page 1).

The Java VM is a runtime interpreter needed to execute Java code on a given platform; Java-enabled programs and applets execute within the VM.

Normally a vendor must license and ship a VM with any Java product. If it is built into the OS, vendors can assume the VM's presence, which will ensure that the Macintosh can execute their applets. A Mac just-in-time compiler makes the interpreted Java code run faster by converting it into machine code immediately prior to execution.

Apple licensed the Java source code from Mountain View, Calif.-based Sun in April (see 05.06.96, Page 1). Natural Intelligence of Cambridge, Mass., is not a Sun licensee; its Java tools are based on its own

in-house implementation of Sun's language specification.

Tesler said the primary reasons for choosing Natural Intelligence were time-to-market concerns and end-user performance.

"We focused on the question of 'How do you do a very good implementation of Java?' " Tesler said. "We've licensed the stuff from Sun, but the Natural Intelligence guys know the Mac; they've done the work."

Hillel Cooperman, director of marketing for Natural Intelligence, said Apple expressed an appropriate urgency for delivering Java to Mac users. "They want to get this out as soon as possible," he said. "It's on a very aggressive schedule."

This is the third significant alliance involving Natural Intelligence's implementation of Java. Last week the company signed co-development agreements with Quarterdeck Corp. of Marina Del Rey, Calif., for server-side Java plug-ins and EveryWare Development Corp. of Mississauga, Ontario, for Java-based database access tools. □

Apple focuses on cameras with embedded QuickTime

By Kelly Ryer

Apple announced a new OS last week. It wasn't Copland, and it wasn't even for the Mac. Instead, the OS will run on a chip inside digital cameras and other imaging devices.

The technology is part of the QuickTime IC (image-capture) technology unveiled at last week's Apple Worldwide Developers Conference in San Jose, Calif. It consists of a multitasking OS for Motorola Inc.'s MPC823 chip and several cross-platform APIs designed for image-capture devices.

Digital-camera manufacturers must currently build custom, application-specific integrated circuits and write custom interfaces to software such as Adobe Photoshop and Storm Software Inc.'s EasyPhoto.

Dan Torres, Apple digital image capture product manager, said QuickTime IC will let camera manufacturers lower their costs

and focus on improving technical performance. With the APIs, vendors will be able to connect their image-capture devices to a customizable software panel on different types of computers. The panel's interface will be similar for all types of imaging peripherals.

"It's computers that see and cameras that think," said Terry Bailey, Apple vice president of imaging peripheral systems. "The differences will be getting smaller."

Apple reported that it is working with key imaging developers and that more than 10 companies already plan to support the technology. Apple outlined QuickTime IC's underlying structure and described some of its potential benefits: With the technology, cameras might transmit images to the Internet without the use of a computer, and scripts within a camera could automate time-lapse photography or run Photoshop filters.

Audience members said they were intrigued. "It looks like a good way for me to get cross-platform interfaces for my cameras," said Koen Van de Poel, manager of Mac development for Agfa-Gevaert N.V. of Mortsels, Belgium. "And it's something that's really new."

Apple demonstrated the embedded chip on a proof-of-concept machine. Engineers also showed how the APIs could be used with existing cameras by using a standard software interface to control QuickTake 150, Minolta RD-175 and Casio QV-10 cameras.

Apple said it plans a July developer release of its software development kit. The final APIs and tools will ship in the fall, Apple said. Licensing fees have not yet been set. □

Pippin

From Page 1

vided with Bandai's @World: a boomerang-shaped game controller with built-in trackball, directional pad and nine buttons; and a folding keyboard with a built-in graphics tablet.

The @World will also come bundled with an Internet-access account through Performance Systems International Inc. of Herndon, Va. PSI said users will receive a CD-ROM containing a Web browser and autoregistration software. The service will be priced at \$24.95 per month for unlimited use.

The @World will also include TV Works, a CD-ROM title providing a simple, integrated word processor, painting program and e-mail package. Bandai said at least two other titles are expected to be bundled, but details have not been made final.

While Bandai is aiming the clone at the consumer market, it also has several vertical market plans up its sleeve, including health care, corporate training, kiosk and education applications. Bandai said it will announce its first vertical market customer in June.

Scott Miller, senior analyst at Dataquest Inc. of San Jose, Calif., said he sees tremendous promise in Pippin.

"The potential for this device is enormous and will explode over the next four years," he said.

Similar products for the consumer market are on track from several vendors, including Sun Microsystems Inc. and Oracle Corp., yet none is expected to ship until early 1997.

According to Pieter Hartsook, editor of The Hartsook Letter, an industry newsletter based in Alameda, Calif., an opportunity exists for Pippin next year when Digital Video Disc (DVD) players enter the market. "There will be \$500 to \$600 DVD players on the market that can do nothing more than play a DVD," Hartsook said.

"And then there will be Pippin, in the same price range, that can do a whole lot more."

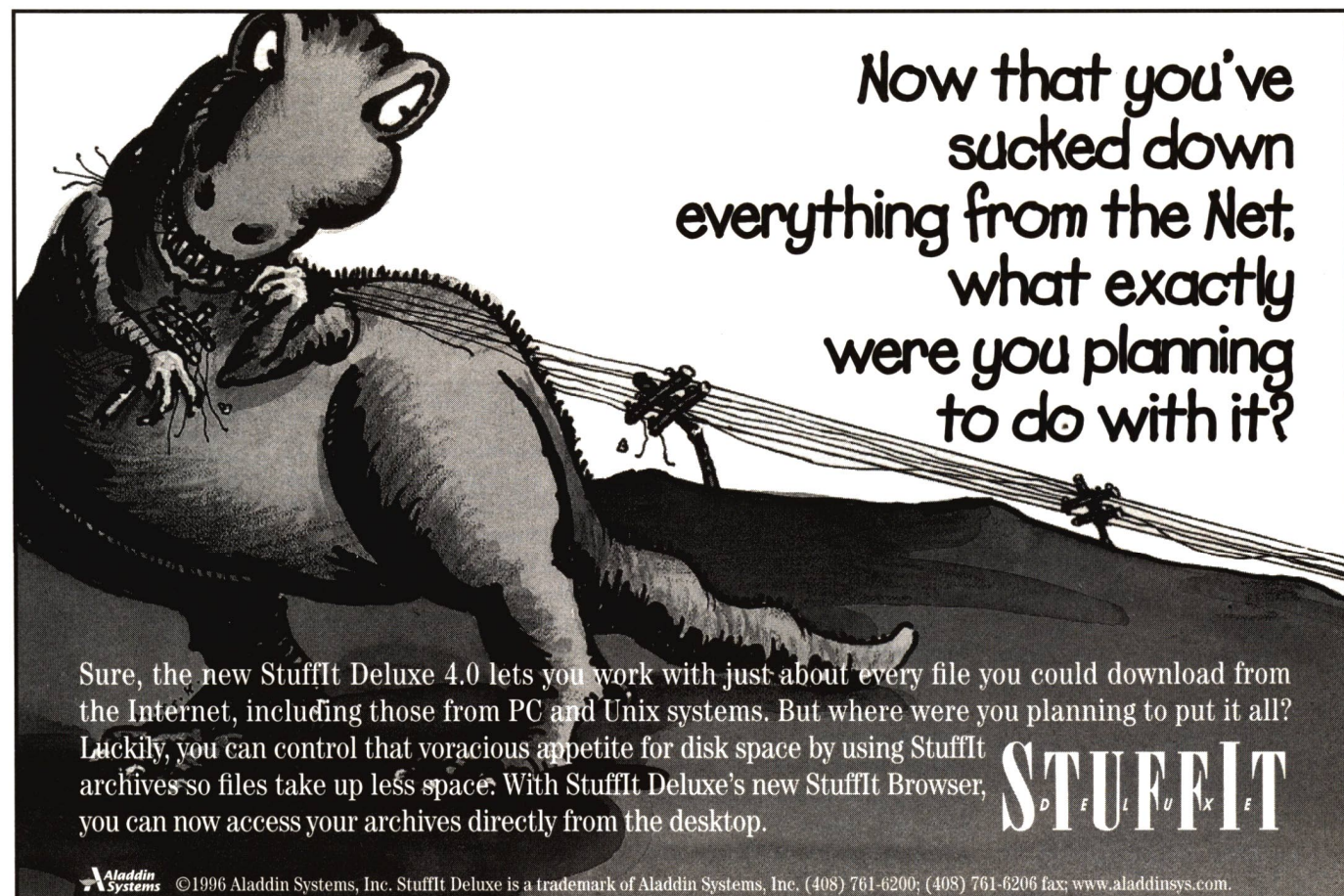
However, one point that raised serious skepticism among expo attendees was the lack of U.S. developers committed to delivering titles for the platform. Only five titles were demonstrated there, and none was ready for release. Titles optimized for Pippin will run unmodified on Power Macs. Bandai claims to have 450 developers in Japan yet gave no figures for its U.S. developers base.

However, Satjiv Chahil, Apple senior vice president of corporate marketing, appeared determined to lead the developers

to the platform. "Our goal is to have all multimedia titles run on Pippin," he said.

Pippin is not Apple's only bet on consumer market computers. Oracle of Redwood Shores, Calif., this week will provide details of its forthcoming "network computer." Oracle will announce several hardware manufacturers for the box, chip vendors as well as support for software technologies from Apple and Netscape Communications Corp.

Bandai Digital Entertainment Corp. of La Mirada, Calif., can be reached at (310) 404-1600; fax (310) 404-1900; info@bdec.com. □



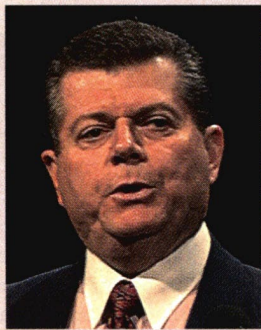
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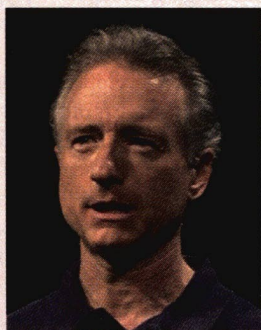
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Sound bites from Apple execs



◀ **"I approach this task with humility — a characteristic I'd like to see more of in our company."**

— Gilbert Amelio,
Apple CEO



▶ **"If you develop [Navigator] plug-ins or Java applets, then you'll be able to use them in OpenDoc containers."**

— Larry Tesler,
Apple vice president of Internet platforms



◀ **"My love of the Mac doesn't translate into love of Apple."**

— Heidi Roizen,
Apple vice president of developer relations

Amelio

From Page 1

company's efforts at making computers attractive to the growing number of new users. In the short term, however, Apple's unit shipments should remain flat for the coming 12 months, he said.

Amelio said Apple will shortly be organized into eight divisions: AppleSoft, AppleNet, Macintosh, Advanced Technology Group, Information Appliances, Alternative Platforms, Imaging and Apple Assist. He said the final details of the reorganization would be announced by the end of this month.

In separate comments later, Apple Chief Administrative Officer George Scalise said that the key divisions will have their own profit-and-loss statements and that the heads of these divisions will be held responsible for results. To measure the overall success of Apple's future efforts, Amelio said the "only metric that I feel comfortable with is shareholder value."

In his sketch of a new Apple corporate structure, Amelio introduced a reborn AppleSoft division that will consolidate the company's operating system work and "plant the Mac OS everywhere."

The central design goal of the Mac OS is now reliability, Ame-

lio said. He reiterated that Developer Release 1 of Copland should ship this summer but promised that Copland would ship only when it was ready to be "the best real-time, multimedia OS."

In the meantime, Apple will pursue a plan to continue improving the existing OS (see story, Page 1). "We need to pull some of these Copland features into System 7.5," he said, particularly the user interface and V-Twin, the search engine in Cyberdog and Copland.

While licensing revenue from the Mac OS is not yet a significant stream for Apple, increasing it is "a high priority," said Scalise, who is now responsible for Apple's licensing efforts. Amelio said Apple must "aggressively license the Mac OS to serious players."

The new AppleNet division will develop the company's communications technologies to position it "at the forefront of the Internet environment," Amelio said.

Amelio advocated an Internet applications framework based on cross-platform, open standards as a future target for software developers. Such a platform would comprise HTML, OpenDoc, Sun Microsystems Inc.'s Java and Adobe Systems Inc.'s Portable Document Format. Elements of the Mac Toolbox will

move into this framework eventually, he said.

OpenDoc can be the key to such "a universal Internet framework," Amelio said. To ensure this, Apple will "marry" OpenDoc to Java and has renewed commitments from IBM Corp. to quickly create a version of OpenDoc for Windows.

The Macintosh hardware division will rapidly move to simplify its technology base by halving the number of Mac models during the next 12 months. Amelio said he pushed the group to cut the number of Mac motherboards from nine down to five and to simplify further to two or three designs only. In addition, he said Apple will ship all Macs with at least 12 Mbytes of RAM — without increasing prices.

While he singled out the server hardware business as a key new initiative, Amelio also announced that Apple and IBM of Armonk, N.Y., had recently reached an agreement to jointly design a portable computer that will run the Mac OS. This pre-PowerPC Platform (PPCP) design will run only the Mac OS and will be sold by both companies.

"That's the best news I've heard from the portable division in a long time," said Pieter Hartsook, editor of the Hartsook Letter, a Mac industry newsletter based in Alameda, Calif.

The Advanced Technology Group, Apple's think tank and research arm, will get a new role as the creator of "concept configurations based on advanced industrial design" for future computers, according to Amelio.

The Information Appliances division will encompass the Pippin multimedia player and Newton MessagePad PDAs. Its goal will be "to do things that cost less than \$1,000" to capture entry-level users, Amelio said. He also promised that Apple would sell a Web-browser version of Pippin under its own label (see story, Page 1).

The Alternative Platforms division will have the charter to "build a bridge to other platforms at the application level," including PPCP machines and non-Mac OS servers.

Amelio later denied reports that Apple had licensed Microsoft Windows NT: "We have no plans to make Windows machines."

The Imaging division — which has printer, scanner and camera products accounting for \$1 billion in Apple sales — will continue its cross-platform mission with a higher profile.

Apple Assist will seek to support Apple customers over the

lifetime of their products, Amelio said. The group will include the existing technical support and customer-service organizations and will branch out with various types of online support.

Amelio also announced to the audience of developers that Apple would spend \$18 million to make Macintosh programming better and \$20 million on programs to help promote third-party developers.

In addition, he said, "We're going to help the smaller ones of you who need support in finding direct financial aid." In exchange, he added, "We'll be pushing you for concurrent releases and maybe some Mac-first releases."

The new CEO said that with the anticipation preceding his speech, "you'd think I was going to part the Red Sea." But if Apple returns to its populist technology roots while becoming more competitive in hardware and software, he said, "a year from now, people will look back on this period and wonder what the fuss was about." □

Reaction

From Page 1

the Apple Worldwide Developers Conference in San Jose, Amelio promised to reduce the complexity of the Mac product line, centralize system software development, focus Apple on industry megatrends, such as the Internet, and re-ignite the company's aid to developers (see story, Page 1).

Analysts' reactions to Amelio's plans were mixed. While some liked his take-control attitude and lauded his direction, others found fault with specific initiatives.

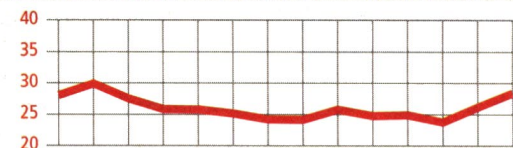
Daniel Kunstler, senior technology analyst with JP Morgan Inc. of San Francisco, said he felt positive after the speech. But, he said, "Apple is still sitting on more landfill than bedrock. I'd like to see more bedrock before I go out to investors and say, 'Buy this stock.'"

He agreed with plans for a reduced number of motherboards; the sale of the Fountain, Colo., plant; more OS licensing; and the Harmony OS update but was critical of Amelio's plan to encourage Mac-only retailers. "He should be

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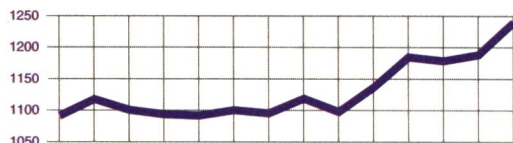
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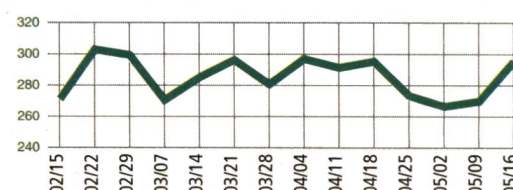
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MACWEEK COMPOSITE

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	05.16.96 CLOSE	WEEKLY CHANGE		05.16.96 CLOSE	WEEKLY CHANGE
Apple	28.38	2.25	PERIPHERALS VENDORS		
MacWEEK			AmeriQuest	1.13	0.31
Composite*	295.13	25.54	Asanté	6.63	-0.13
SOFTWARE DEVELOPERS			Focus	3.56	-0.13
Adobe	44.88	5.50	Global Village	17.50	-0.19
Caere	10.50	-0.63	HP	105.25	1.00
CE Software	2.44	0.06	QMS	5.88	-0.25
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Graphsoft	5.13	-0.38	Shiva	70.13	8.63
Insignia	8.88	0.25	Tektronix	38.50	1.13
Intuit	55.00	3.50	Truevision	9.00	0.50
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Quantum	25.38	2.44	Intel	71.88	3.25
Seagate	62.25	6.50	Motorola	63.63	3.50
SyQuest	5.69	0.75	SGI	29.13	1.63
			NASDAQ	1239.31	51.48

*The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, Shiva, SyQuest and Truevision. Source: Nordby International Inc.

encouraging all retailers," he said.

Craig Cline, vice president of programs at Foster City, Calif.-based Seybold Seminars, was less positive about Amelio's speech, calling it a "no-brainer."

"What would have impressed me today is if Apple had announced that it licensed ActiveX," Cline said. "That would mean that [Apple] recognizes the reality of the situation that Microsoft is an important player." ActiveX is Microsoft Corp.'s multimedia architecture for the Internet.

Pieter Hartsook, editor of the Alameda, Calif.-based Hartsook Letter, said he was pleased that Amelio is making the main operating divisions into profit-and-loss centers. But he said he worried that it would be difficult to integrate that business model into the current Apple structure.

Hartsook said Apple erred in trying to compete directly with Intel-standard PCs. "What Amelio is doing is taking his blinders off and saying, 'Our core competencies are much more than being just a clone competitor. We need to look at those competencies and go after them.' That's exactly what Apple needs to do."

While analysts pored over Amelio's management strategy, Mac developers said they were happy with his technical savvy and his tough-guy stance.

"It's encouraging to hear a CEO who knows how many motherboards Apple makes and has an idea about how many they should make," said David Shayer, president of Sentient Software of San Carlos, Calif.

Michael Rosenfelt, director of marketing at Power Computing Corp. of Round Rock, Texas, said Amelio presented "an absolute sense of realism and an articulation of vision."

Users seemed more interested in the news that the company would ship all Macs with more RAM and release an OS update around the end of the year.

Rex Sanders, information systems coordinator at the U.S. Geological Survey in Palo Alto, Calif., criticized the new minimum RAM configuration. "Going from 8 to 12 Mbytes is like being half-pregnant," Sanders said. "No PowerPC-based Mac is useful with less than 16 Mbytes."

Shiv Singh, a student at Babson College in Wellesley, Mass., gave a thumbs-up to Harmony and to Apple's Internet strategy. "At last they have figured it out: Apple and the Internet," Singh said. "Apple's future lies in making those two words synonyms." □

Rebecca Gulick contributed to this story.

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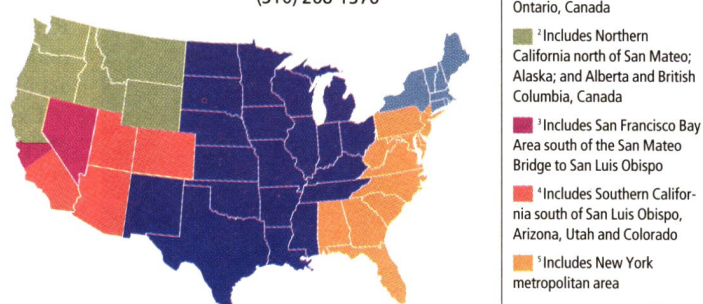
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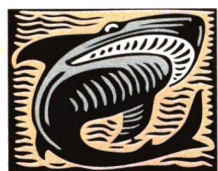
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Amelio's got a brand-new bag

 Loath though he is to air Gilbert Amelio's dirty laundry in public, the Knife was presented with an irresistible opportunity at WWDC last week when the glad-handing doctor misplaced his attaché case in the San Jose Convention Center's VIP lounge.

Through a series of coincidences too sordid to recount here, the Knife found himself in possession of a remarkably similar article of baggage. Perusing the contents yielded a number of amusing artifacts and intriguing insights into the future of the market.

Besides a copy of John Sculley's autobi-

ography (heavily annotated) and a studded leather collar apparently left over from the Spindler regime, the Knife got a gander at a prelude to Apple's Harmony OS rev. Code-named Buster (reputedly, Dr. Gil's high school nickname), this tune-up to System 7.5.3 promises to stop Type 8

crashes when PowerBooks running RAM Doubler are awakened. It will also improve performance on Duo 2300s and PowerBooks with PPC upgrade cards, fix an elusive data-corruption problem with 1-Gbyte IBM drives, and squash bugs in the PCI Macs' emulator and PowerBook floppy drives. Schwing-ola!

Scent of a clone

Burrowing past some fascinating personal-grooming products into the nether reaches of Gil's valise, the Knife again struck fool's gold in the form of a dealer price list for UMAX's new SuperMac line of clones. The document was easy to detect by smell alone, since the margins are more odoriferous than the good doctor's personal brand of greasy kid's stuff. In fact, the UMAX boxes offer dealers about half the markup on Apple's machines, directly contradicting the bullish statements made to MacWEEK a mere two weeks ago by UMAX honcho Andy Chang.

Rear window

The Knife has also been busy sniffing around the offices of PC wannabe Connectix, which is still hard at work on its reputed SoftWindows killer. The product is due to come screaming out of the starting gate at Boston's Macworld Expo in August. Sources said the software, which will integrate a shiny new version of RAM Doubler, will run Windows 95 at Pentium speeds when given 8 Mbytes of RAM and low-end 486 speeds when provided with a lowly 6 Mbytes.

And while we're on the subject of RAM Doubler: The new version, also due in August, might more aptly bear the moniker RAM Quadrupler, since it will be able to make a Mac running 16 Mbytes of RAM act like it's packing 64.

Last (and probably least), a new version of Speed Doubler promises to pump up the volume while adding a control panel.

Nine out of 10 Windows cross-dressers agree: Connectix's triple play is in response to rumblings from utility developer Synchronys. That company, which recently inspired much fear and loathing on the Intel side with its arguably fraudulent SoftRAM application, is reportedly going to bring its brand of system gift to an unsuspecting Mac market this year.

Pass the salt

Revenge may be a dish best served cold, but the Knife has always felt that crow is tastiest when served piping hot with just a soupçon of rosemary.

These culinary musings are inspired by the collective shriek of outrage emanating from the University of California at Davis in the wake of last week's column. The Knife, having gotten into the cooking sherry at the Laguna Honda Community College alumni mixer, apparently hallucinated a scenario that replaced UCD's Macs with more Spartan boxes. In fact, his aggrieved pen pals assure him, the polychrome Apple continues to wave proudly above the grain silos and milking machines southwest of Sacramento. □

Hey, Gil! Does this thing run on AC power? Tip the Knife at (415) 243-3544; fax (415) 243-3651; mac_the_knife@macweek.com.

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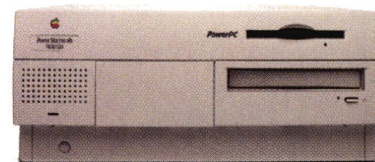
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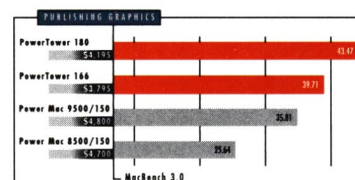
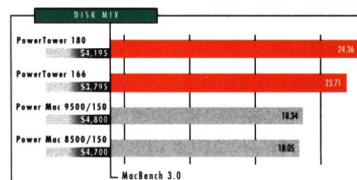
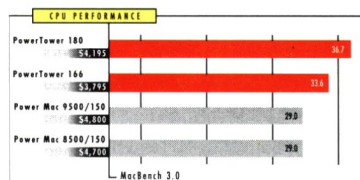
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PowerTower 180 Hot Pick
180MHz PowerPC 604 Processor

- 32 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Hard Drive
- Quad-speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- IMS Twin Turbo 128M graphics accelerator with 4MB VRAM (128-bit)
- 2 MB VRAM on-board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-tower enclosure
- Extended Keyboard and Mouse
- \$1200 in bundled software

\$4,995



PowerTower 166 Hot Pick
166MHz PowerPC 604 Processor

- 32 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Hard Drive
- Quad-speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- IMS Twin Turbo 128M graphics accelerator with 4MB VRAM (128-bit)
- 2 MB VRAM on-board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-tower enclosure
- Extended Keyboard and Mouse
- \$1200 in bundled software

\$4,595



PowerTower 180 Starter
180MHz PowerPC 604 Processor

- 16 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Hard Drive
- Quad-speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 2 MB VRAM on-board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-tower enclosure
- Extended Keyboard and Mouse
- \$1200 in bundled software
- Add Macromedia Bundle \$795
- Add Sony 20" Trinitron 20sfl \$2099

\$4,195



PowerTower 166 Starter
166MHz PowerPC 604 Processor

- 16 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Hard Drive
- Quad-speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 2 MB VRAM on-board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-tower enclosure
- Extended Keyboard and Mouse
- \$1200 in bundled software
- Add internal Iomega Zip Drive \$159
- Add Sony 17" Trinitron 17sfl \$979

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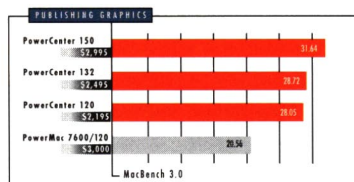
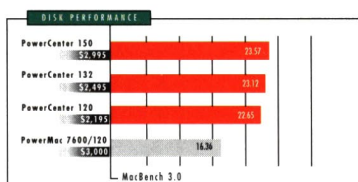
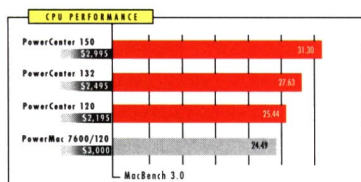


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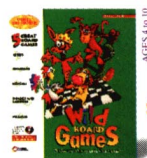
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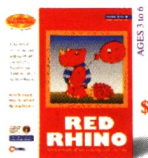


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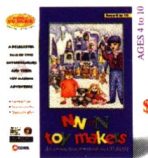
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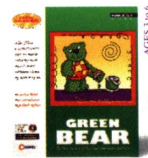
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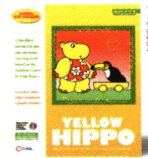
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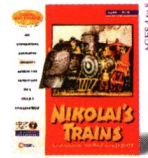
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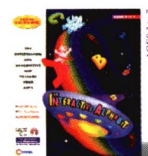
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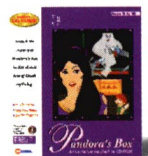
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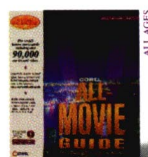
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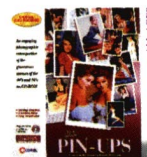
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